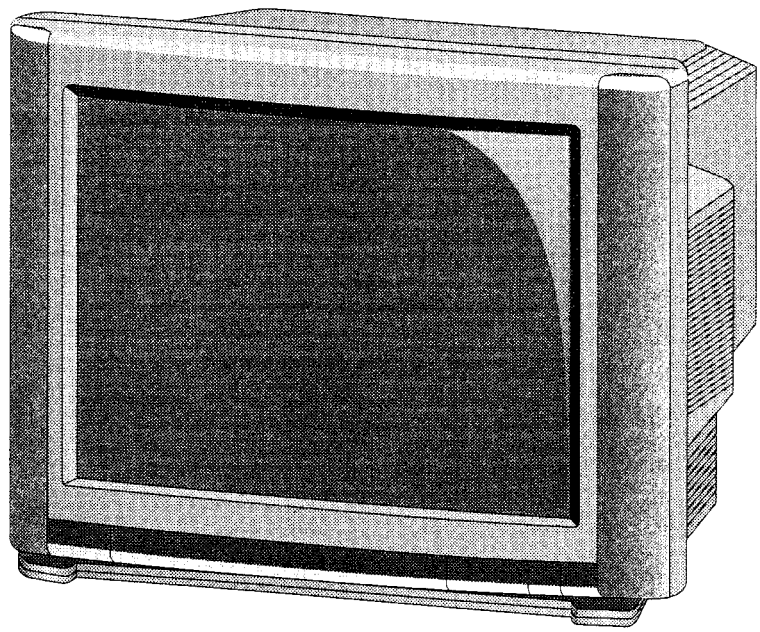
Amstrad



STV2104

SATELLITE READY
21" COLOUR TV WITH FAST TEXT

SERVICE MANUAL

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Date Of First Publication January 1993.
Information published was latest at the time of print.
Amstrad reserves the right to supply selective components

TECHNICAL SPECIFICATION

TV SECTION

System	:	PAL-B/G
Channel	:	W.GERMANY E21 - E4, SS1 - SS3, VHF1 S1 - S2, VHF1 E5 - E12, S3 - S20, VHF2 21- 69 UHF ITALY A - C VHF1 D - HVHF2 21 - 69 UHF
Frequency Range	:	48.25 - 112.25 MHz UHF1 119.25 - 294.25 MHz VHF2 471.25 - 855.25 MHz UHF
Scanning	:	625 Lines Horizontal 15625 Hz Vertical 50 Hz
IF Frequency	:	Video 38.9 MHz Sound 33.4 MHz Chroma 34.47 MHz
Vision/Sound Separation	:	5.5 MHz
Synchronising Sensitivity	:	30 dBμV
Output Power	:	>5W Maximum 10% THD >4W
C.R.T.	:	21" (51cm) Diagonal, FST 90° Degree.
Speaker	:	2.5 " x 4", 8 Ohm x 2
Antenna Impedance	:	75 Ohm
Power consumption	:	120 Watts
Video Input	:	1Vp-p (positive video) 75 Ohm Impedance
Audio Input	:	0.5V r.m.s. (1KHz) >10K Ohm Impedance

SAT SECTION

Frequency Range	:	950-1750	MHz
IF Frequency	:	Video 479.5	MHz
		Sound 5-8.8	MHz
Channel Bandwidth -3dB	:	27	MHz
Image Rejection 1910-2660 MHz	:	30	dB
LNB DC Supply	:	Horizontal 17-18	V
	:	Vertical 12.8-13.4	V
LNB DC Supply Short Protect	:	450	mA
Input Impedance	:	75	Ohm

SAFETY TEST

Please note: When any work is carried out on a set, the following safety tests must be carried out to ensure continued electrical safety.

1). Flash Test
Test at 3.5k V between the live and neutral of the mains lead joined together and ALL accessible metal points on the exterior of the set.

2). Insulation Resistance Test
Test between the live and neutral of the mains lead joined together and ALL accessible metal points on the exterior of the set to show a resistance of at least 4MOhm.

In keeping with our policy of continually improving our service, and the technical quality of our products, we reserve the right to change component types, menufacturers, sources of supply or technical speification at any time.

AMSTRAD PLC
BRENTWOOD HOUSE, 169 KINGS ROAD, BRENTWOOD, ESSEX CM14 4EF.

ALIGNMENT INSTRUCTIONS

Test Equipment: VIF Sweep Generator; SIF Sweep Generator; Colour Bar/Dot/Cross Hatch Generator; DC Power Supply (14V); Oscilloscope; Vacuum Tube Voltmeter; Volt Ohmmeter; High Voltage Meter; Ampere Meter (0.5 Class, DC 3mA Max.) Demagnetizing Coil; Philips Pattern Generator; Frequency Counter; Continuous Waveform Generator.

TV SECTION

STEP	FUNCTION	SIGNAL IN	SIGNAL OUT	METHOD	REMARKS
1).	Tank Coil Adjustment.	VIF Signal Generator. Tuner Test point Tp & tuner case (Earth).	Oscilloscope TP601 & Earth.	Adjust AGC bias voltage for maximum amplitude of waveform. Adjust the output level of VIF sweep Generator to achieve 2Vp-p output on oscilloscope. Adjust t T103 to obtain maximum amplitude of response at PC (38.9 MHz).	Refer Fig. 1 & Fig.2. Supply DC +12.5V to ⊕ TP402. (Step 1 to 4 only) Supply RF AGC bias 5.5V Voltage to TP101 refer Fig.1a. (Step 1 to 3 only)
2).	VIF Adjustment.	VIF Signal Generator. Tuner Test point Tp & tuner case (Earth).	Oscilloscope TP601 & Earth.	Connect resistor 100 Ohm between TP102 & TP103. Adjust AGC bias voltage for maximum amplitude of waveform. Adjust the level of sweep Genetator to achieve 2Vp-p output. Increase the output level of sweep generator in 20dB. Adjust AGC bias voltage to achievf 2Vp-p output. Adjust tuner connvert for coil to ortain the waveform shown.	Refe Fig.3. Disconnect 100 Ohm resistor after satisfactory results.
3).	AFC Alignment.	VIF Signal Generator. Tuner Test point Tp & tuner case (Earth).	Oscilloscope TP106 & Earth.	Adjust the output level of VIF Signal Generator. for maximum amplitude waveform without saturation, adjust T102 to obtain frequency response as shown in the fig., at 38.9MHz.	Refer Fig.4.
4).	SIF Alignment.	SIF Signal Generator TP105 & Earth.	Oscilloscope TP604 & Earth.	Connect the TP101 (AGC) to Earth. Set the frequency of FM signal generator 5.5MHz with 400Hz 25KHz deviation and signal output level to 100dB. Adjust T104 to obtain the maximum output.	Disconnect the TP101 (AGC) to Earth after satisfactory results.
5).	B+ Adjustment.	Power On.	AVO Meter.	Connect Voltmeter to TP405 and Earth. Adjust VR901 to read DC 106.5V ± 0.5V.	
6).	Horizontal Circuit Adjustment.	Signal Generator.	Frequency counter IC302 Pin 41 & Earth.	Set the TV to AV mode, connect the Frequency counter between IC302 Pin 41 and Earth. Adjust VR303 (H.FREQ.) to the reading 15330 ± 30Hz, and back to TV mode. Receive Monoscope Pattern, adjust VR301 (H.CEN) control to obtain a normal picture.	
7).	Vertical Circuit Adjustment.	Signal Generator.	Frequency counter V-DEFLECTION YORK and Earth.	Set the TV to AV mode, connect the Frequency counter between V-Deflection York and Earth, adjust VR304 (V-HOLD) to the reading 44Hz +2-0 Hz, and back to TV mode. Receive Monoscope Pattern, adjust VR401(V-HIGH) control to obtain a normal picture.	
8).	White Balance Adjustment.	Receive a black and white picture signal.	Screen.	Set screen control to min. turn R.G.B. VR501, 502, 503 and drv. VR504, 505 to mid. position. Turn the Sub-Brightness (VR305) control to mid. position, then set the Contrast control and Brightness control to MID position. Connect jumper wire between TP401 and TP402. Turn screen control clockwise until dim line appears. Then adjust VR501 to get a red H.Line, then adjust VR502 to get yellow line & then adjust VR503 to get white line. Desconnect the jumper wire, after white BALANCE adjustment. Adjust VR504,VR505 to obtain a white unform picture.	
9).	Focus.	Signal Generator.	Screen.	Set Contrast control max. Brightness to mid position. Adjust Focus Control to get sharpest picture.	
10).	RF AGC.	Signal Generator. CH9 (203.25 MHz).	Volt. Meter Tuner AGC.	Set input signal level to 60dB ± 1dB. Connect Voltmeter to Tuner AGC and Earth adjust VR101 to read DC 5V + 0.5 −0.2V.	
11).	Colour DE Mod Adjustment.	Signal Generator.	Screen.	Set Colour control to max. and Contrast control to min. Connect Oscilloscope to TP406. Adjust CT301, VR302 & T301 to obtain as Fig.	Refer Fig.5.
12).	Sub Brightness Adjustment.	Signal Generator.	Screen.	Select Grey Scale. Set Brightness, Contrast & Colour settings to mid position. Adjust VR305 control until 10th step of the GREY Scale just appear on the screen.	

STEP	FUNCTION	SIGNAL IN	SIGNAL OUT	METHOD	REMARKS
13).	On Screen Adjustment.	Signal Generator.	Screen.	Press the Volume up/down key. Adjust T601 (OSD CEN.) for adjust the lettering to center of CRT.	
14).	Teletext PICTURE Adjustment.	Receive a pattern with teletext signal.	Frequency counter TP801 & Earth.	Select a teletext page, short Pin22 of IC801 to GND. Adjust CT801 until the frequency counter reading 6.0HMz ± 0.2 KHz.	

15. COLOUR PURITY ADJUSTMENT (SEE FIG.7)

BEFORE ALL ADJUSTMENT DESCRIBED BELOW ARE ATTEMPTED, V-HOLD, H-HOLD, V-HIGH, B+ VOLTAGE AND FOCUSING ADJUSTMENT MUST BE COMPLETED.

1. Place the TV receiver facing NORTH or SOUTH.
2. Plug in TV receiver and turn in on.
3. Operate the TV receiver over 30 minutes.
4. Fully degauss the TV receiver by using an external degaussing coil.
5. Receive a crosshatch pattern and adjust the static convergence, control roughly.
6. Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
7. Fully turn the red and blue Drive (VR504, VR505) controls counter-clockwise.
8. Adjust the purity magnets so that green field is obtained at the center of the screen.
9. Slowly push the deflection yoke towards bell of CRT and set it where a uniform green field is obtained.
10. Tighteen the clamp screw of the deflection yoke.

16. CONVERGENCE ADJUSTMENT (SEE FIG.7)

1. Receive a dotted pattern.
2. Unfix the convergence magnet clamper and align red with blue dots at the center of the screen by rotating (R,B) static convergence magnets.
3. Align Red/Blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clamper.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow "PURITY ADJUSTMENT" instructions.

SAT SECTION

STEP	FUNCTION	SIGNAL IN	SIGNAL OUT	METHOD	REMARKS
17).	AFC alignment.	Power On.	Voltmeter at TP2.	Adjust VR102 to read 2.9-3V.	Tuner without signal I/P & loading.
18).	LNB supply alignment.	Power On.	Voltmeter at Tuner LNB input.	Connect 43Ohm resistor to LNB input. Connect TP1 to GND and power on. Press SEQ key twin and press select +/- key to select V-polarizontion. Press PRESET key twin until the turning bar appear. Press SELECT +/- key to adjust LNB voltage to 13.1V ±0.1V. Press SEQ key and SELECT +/- key to select H-polarization. Press PRESET key twin until the turning appear. Press select +/- key to adjust LNB voltage to 17.5V ± 0.1V.	
19).	SIF alignment	RF signal Generator.	VTVM and distortion meter at Pin 1 & 3 of SAT SCART.	Received the correct RF program & Audio channel. Adjust T101 to max. level output and min. distortion output of pin 3 of SAT SCART. Adjust T102 to max. level output and min distortion output of pin 1 of SAT SCART.	Preset Audio mode to stereo and Audio freq. L to 7.02 MHz and Audio freq R to 7.20 MHz of RF signal generator. Reset Audio deviation to 100kHz pp.
20).	Video DEV. alignment.	RF signal Generator.	Oscilloscope at Pin 19 of SAT SCART.	Received the monoscope pattern. Press SEQ key and SELECT +/- key to select 16 MHz Video Deviation. Adjust VR101 to output 1 Vpp.	Connect 75 Ohm resistor between GND to pin 10, pin 12 and pin 19 of SAT SCART.

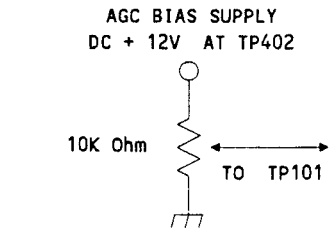


Fig.1a

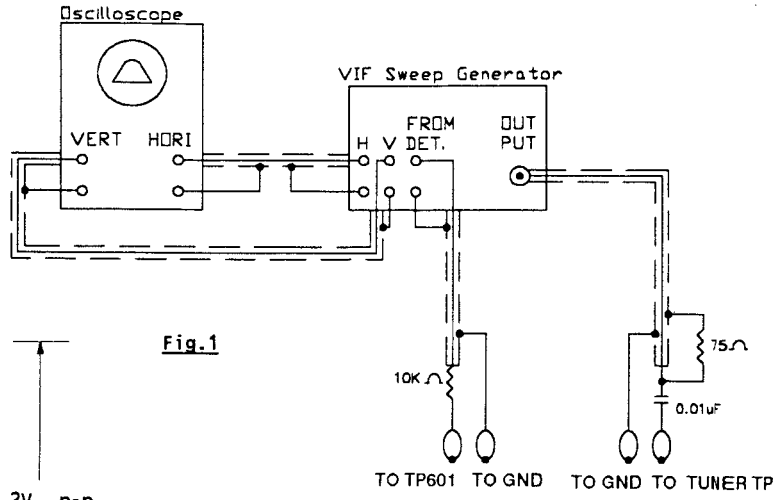


Fig.1

Fig.2

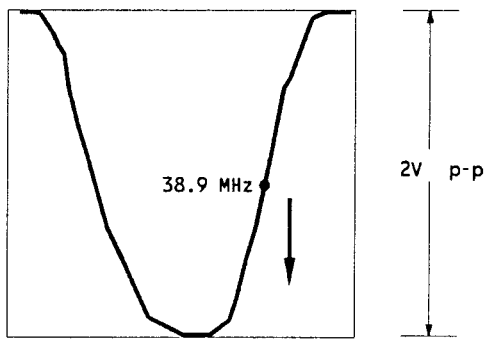


Fig.3

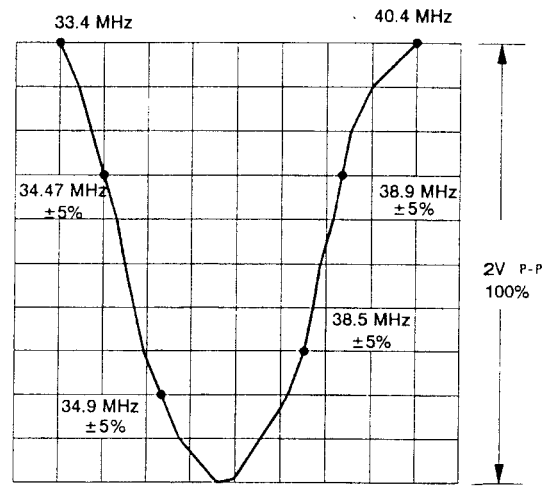


Fig.4

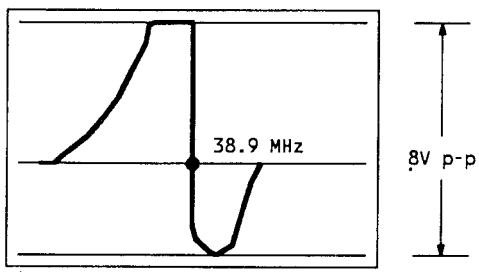


Fig.5

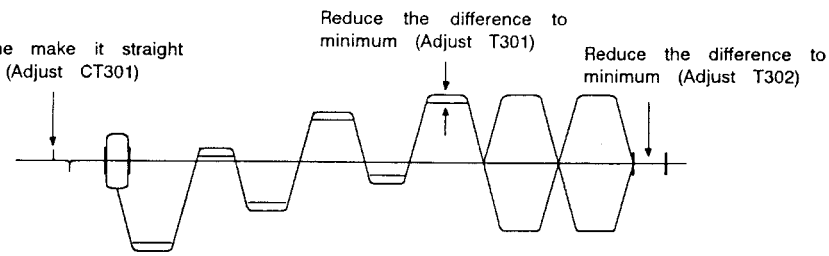

This line make it straight exactly (Adjust CT301)
Reduce the difference to minimum (Adjust T301)
Reduce the difference to minimum (Adjust T302)

Fig.6

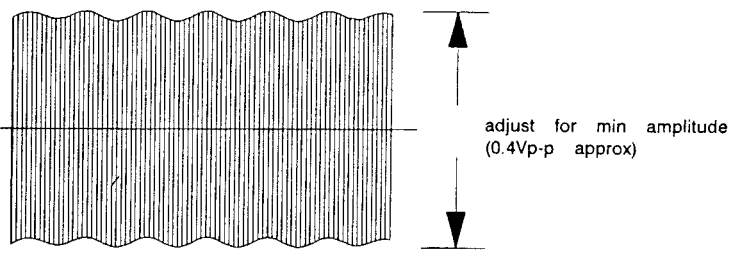
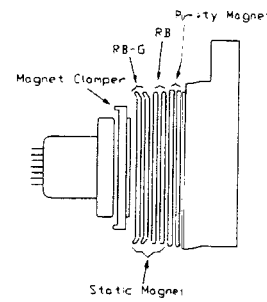
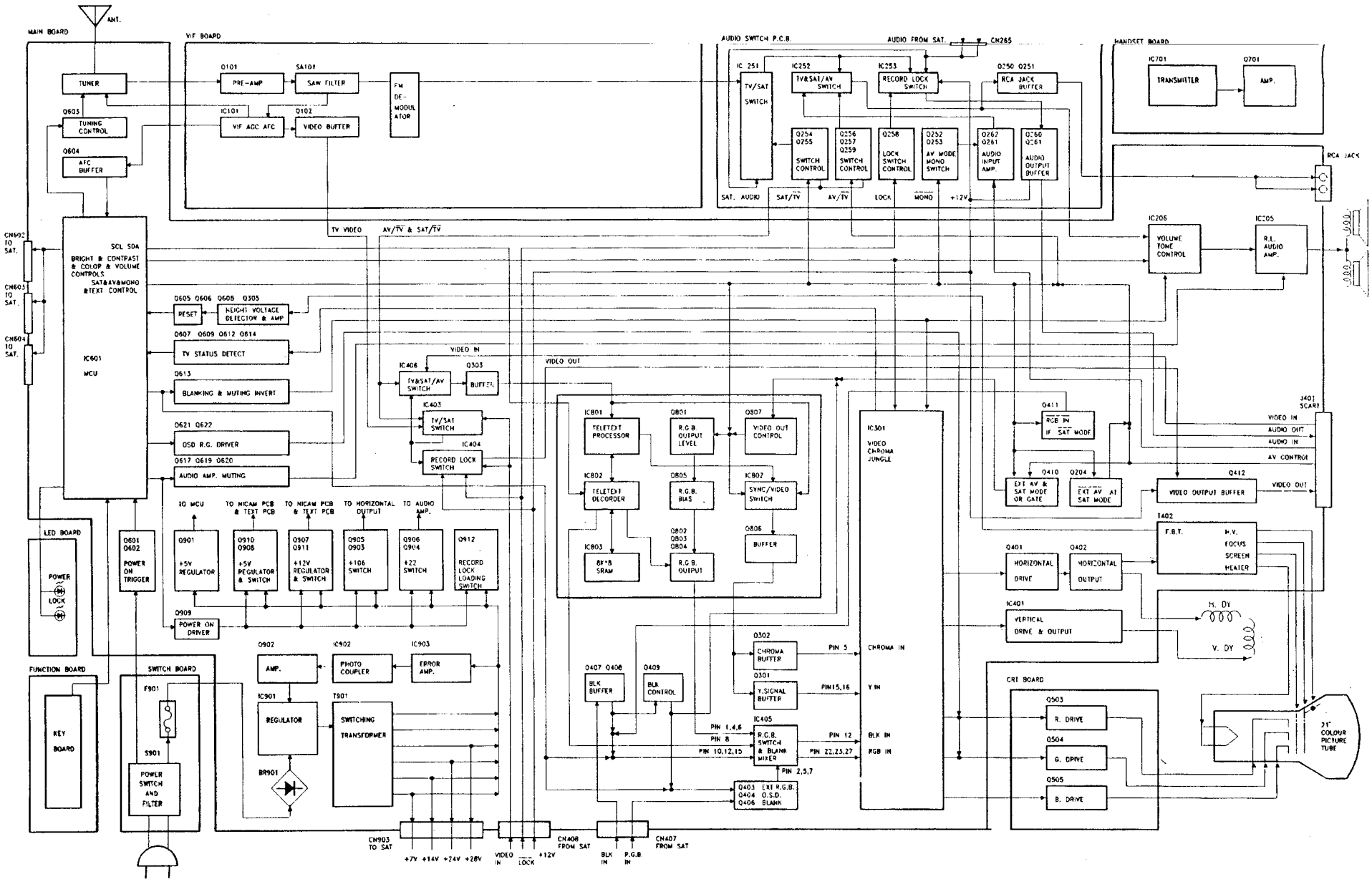


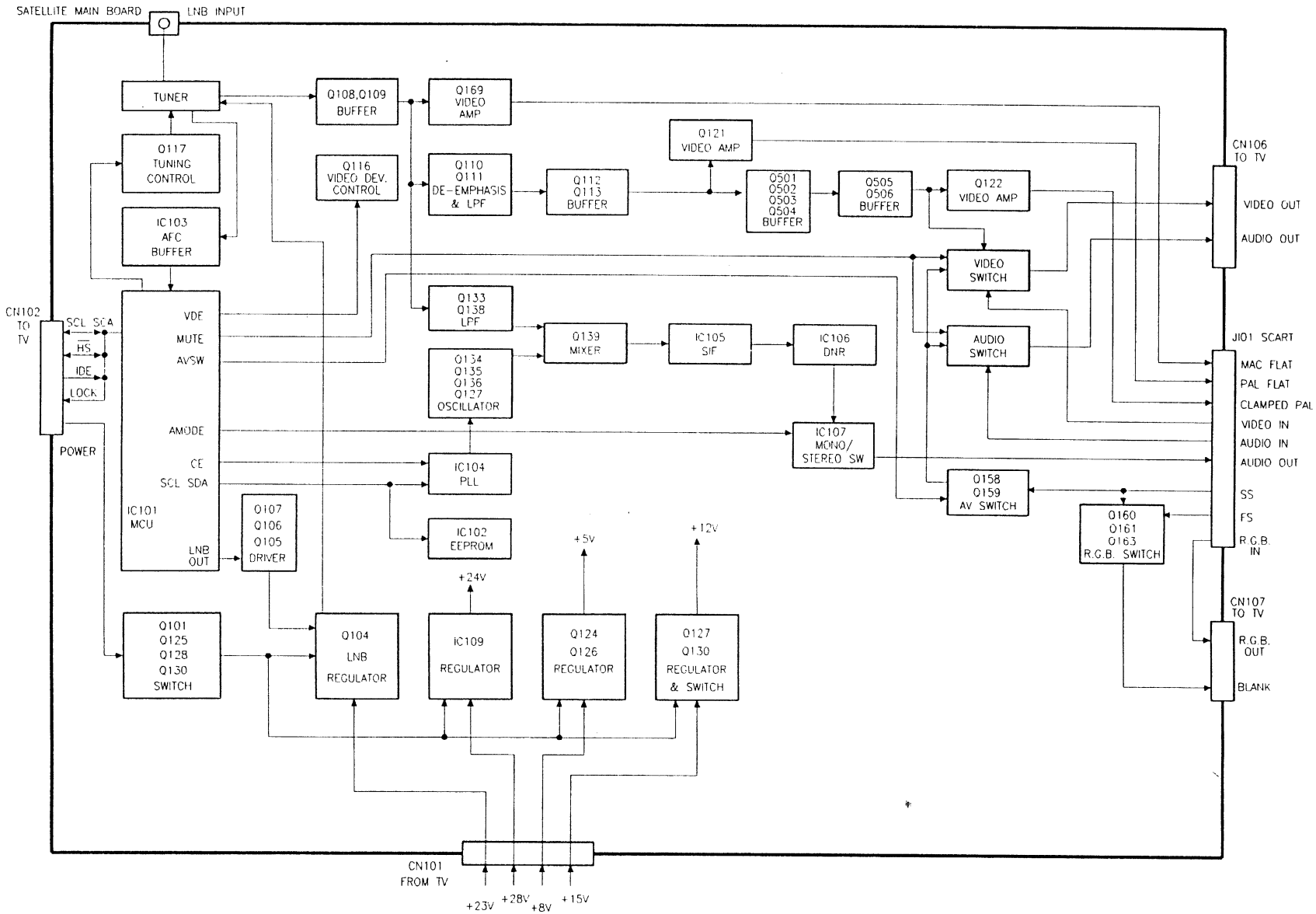
Fig.7



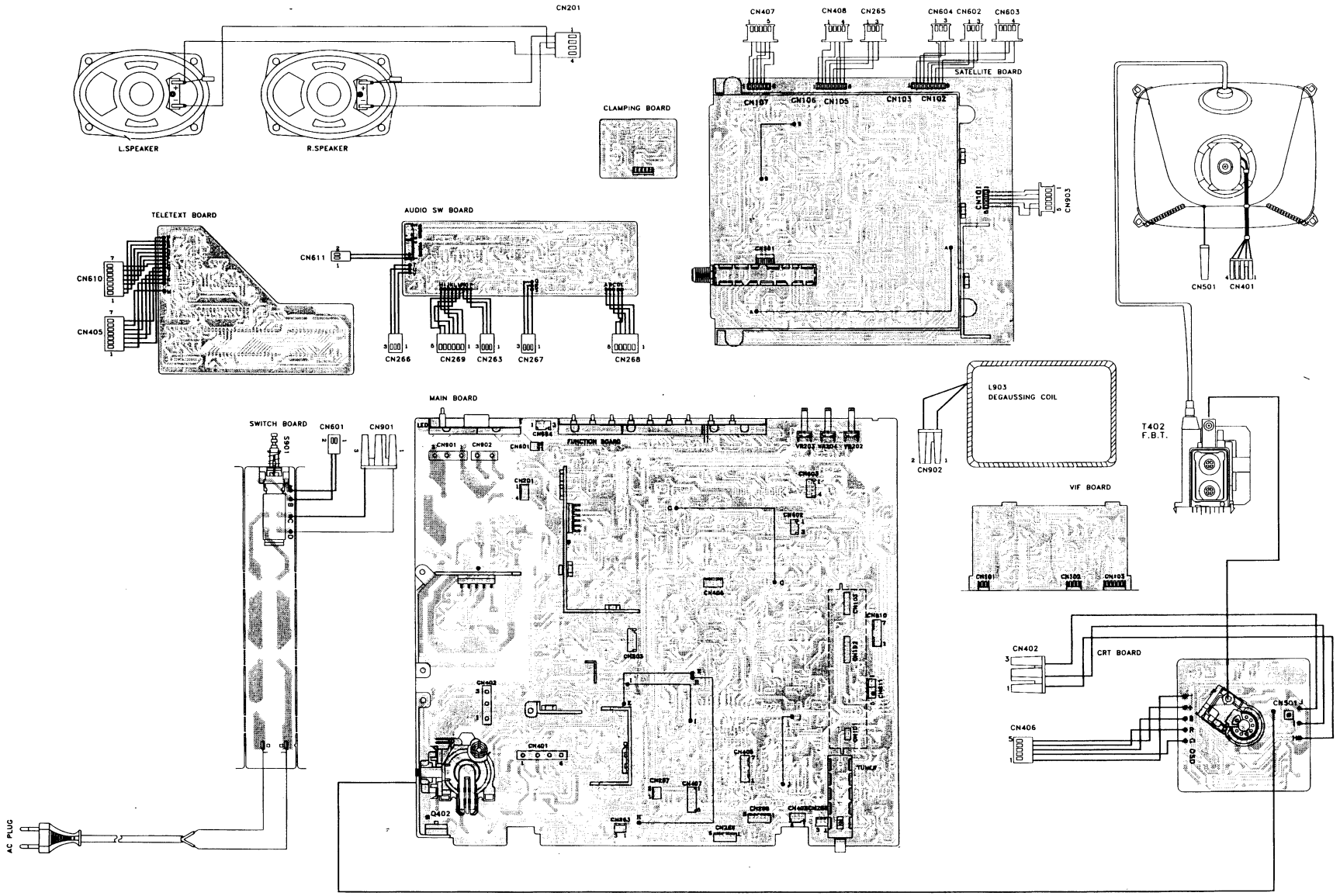
BLOCK DIAGRAM
(For TV)



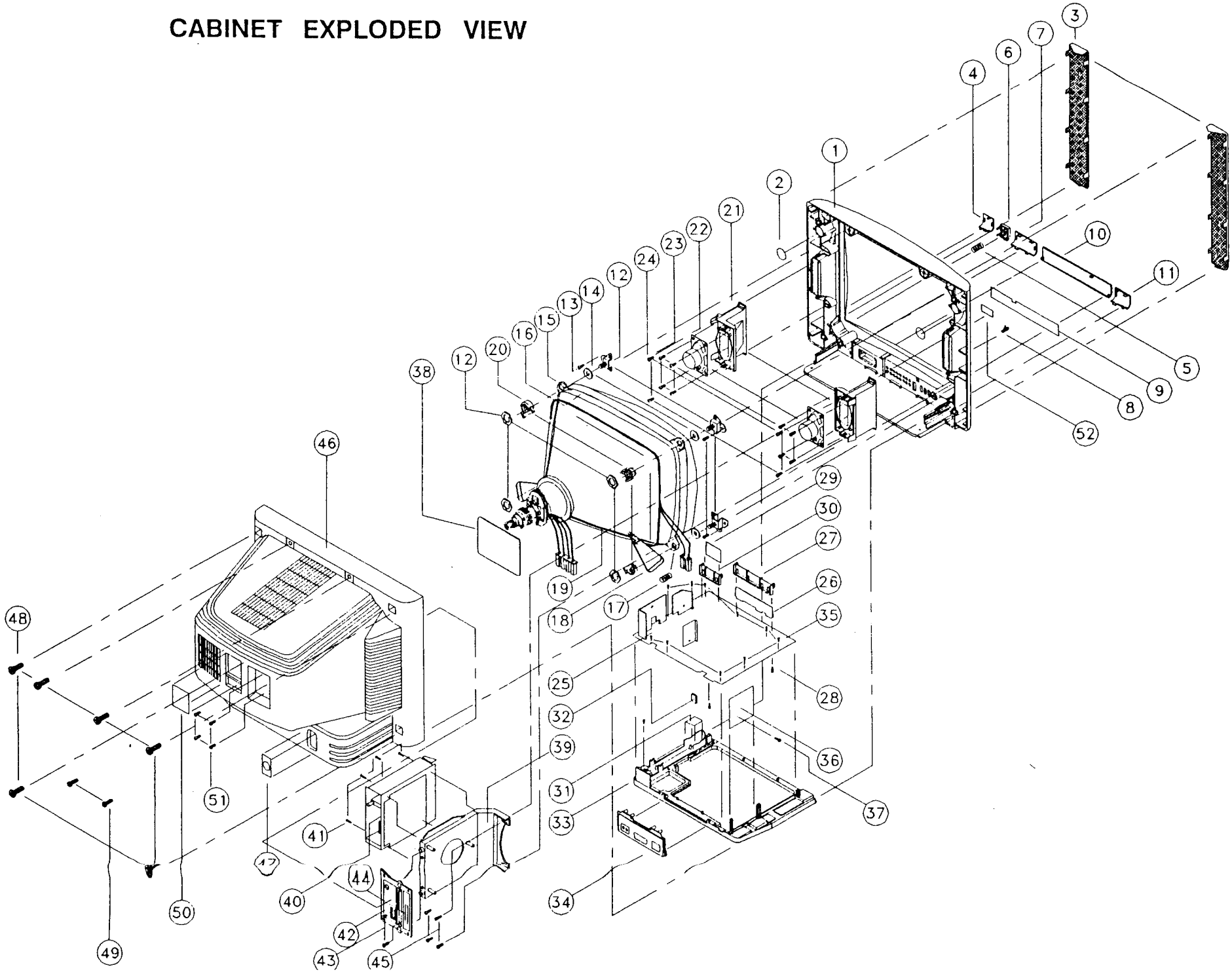
BLOCK DIAGRAM
(For Satellite)



WIRING DIAGRAM



CABINET EXPLODED VIEW



* Refer to Part Nos. on Page 10

Cabinet Parts List

MODEL NO: STV2104

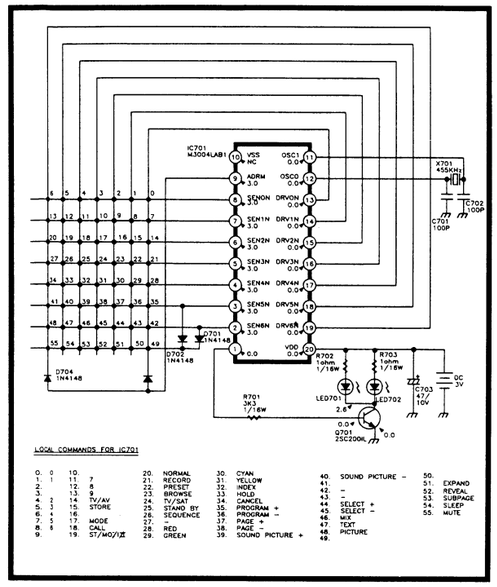
Ref. No.	Description	Pt. NO.
	Cabinet Parts List	
1	Front Cabinet	242083
2	Pvc Sheet Cover Tweeter	
3	Speaker Grille	241704
4	Front Panel Right Red	241970
5	Compression Spring	
6	Power Knob Red P.C. Clear	241702
7	Front Lens Red	241987
8	Door Lock Assy.	241586
9	Control Overlay	
10	Front Panel Door	242085
11	Front Panel Left	241969
12	Crt Mounting Bracket	
14	Rubber Ring T=2mm	
15	C.R.T. A51JAR90X13 A51JSW90X10	241692
18	Degauss Coil Clip	
19	Degauss Coil	241913
20	C.R.T. Mounting Clip	
21	Speaker Bracket Black	241922
22	Speaker	241690
25	Main PCB Assy	
26	Function PCB Assy	
27	Function PCB Mtg Br'ket	
29	LED PCB	
30	Channel PCB Mtg Br'ket	
31	Power PCB	
32	Adapter Power Knob	241989
33	Chassis Bracket	
34	Back Panel Black	241923
36	Teletext PCB	
38	C.R.T. PCB	
39	Satellite Box Mtg Br'ket	241990
42	Satellite Module Assy	242093
44	Jack Plate For Satellite	242088
47	Back Cabinet	242084
48	Antenna Cover Plate	241703
51	Label Model No.	
53	Amstrad Badge	

CONVERSION TABLE OF DIFFERENT C.R.T.

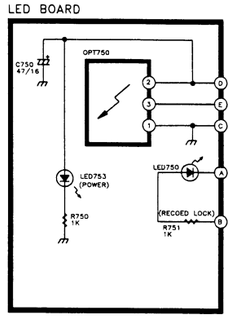
102-321001-16 SAMSUNG C.R.T.		102-321001-12 ORION C.R.T.	
026-332160-41 METALLIZED POLYPROPYLENE CAP. 0.0033MFD 1600V DC 5% ECW-H12H332JR MATSUSHITA C442	1 PC	026-222160-41 METALLIZED POLYPROPYLENE CAP. 0.0022MFD 1600V DC 5% ECW-H12H222JR MATSUSHITA C422	1 PC
105-570101-01 FIXED INDUCTOR COIL 57UH ±10% ELH-5L155H MATSUSHITA L405	1 PC	105-650052-03 FIXED INDUCTOR COIL 65UH ±5% 156-ELH-5L60 LI SHIN L405	1 PC
026-474200-31 POLYPROPYLENE CAP. 0.47MFD 200V 5% ECQ-F2H474JZ MATSUSHITA C431	1 PC	026-334200-31 POLYPROPYLENE CAP. 33MFD 200V 5% ECQ-F2H334JZ MATSUSHITA C431	1 PC
061-540013-01 20" C.R.T. SOCKET 0330550043 METALLO	1 PC	061-520004-01 C.R.T. SOCKET HPS2171-010701 MAIN NECK HOSIDEN	1 PC
090-922020-01 P.C. BOARD (020792) PHENOLLC T=1.6MM UL94VO C.R.T. BOARD	1 PC	090-922120-01 P.C. BOARD (010792) PHENOLLC T=1.6MM UL94VO C.R.T. BOARD	1 PC
NIL		123-471850-40 CERAMIC CAPACITOR 470pF 2KV 10% ECK-D3D471KBN MATSUSHITA C448	1 PC

MISCELLANEOUS SCHEMATIC DIAGRAM

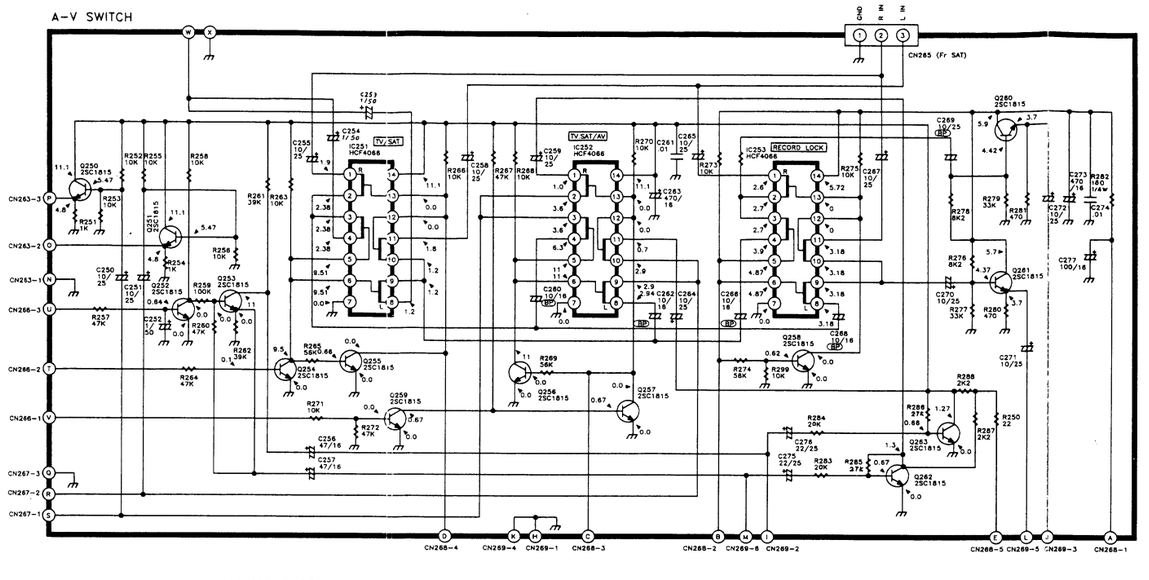
HANDSET BOARD



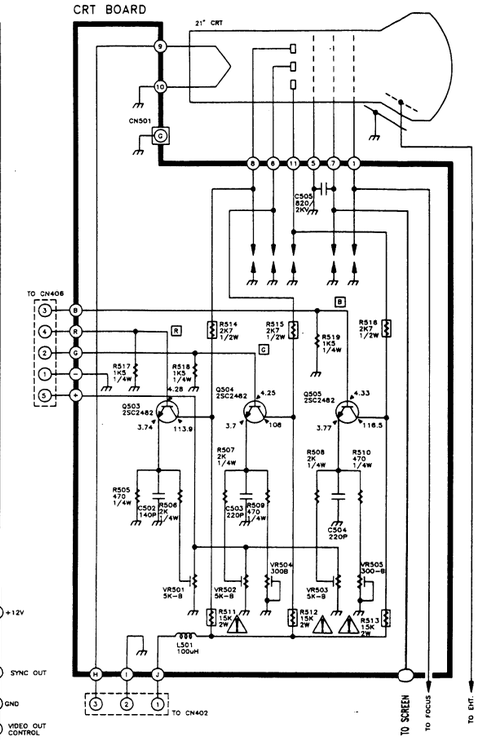
LED BOARD



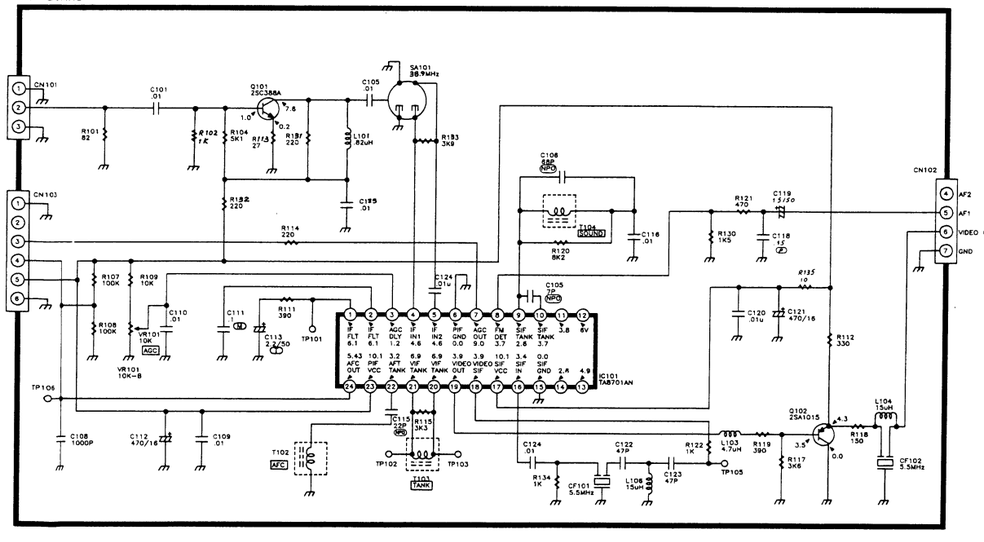
A-V SWITCH



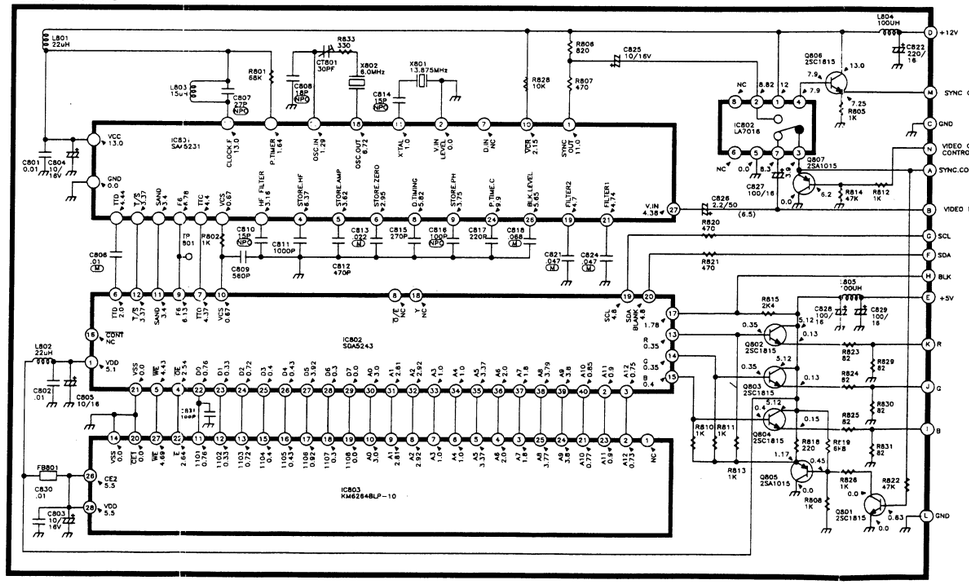
CRT BOARD



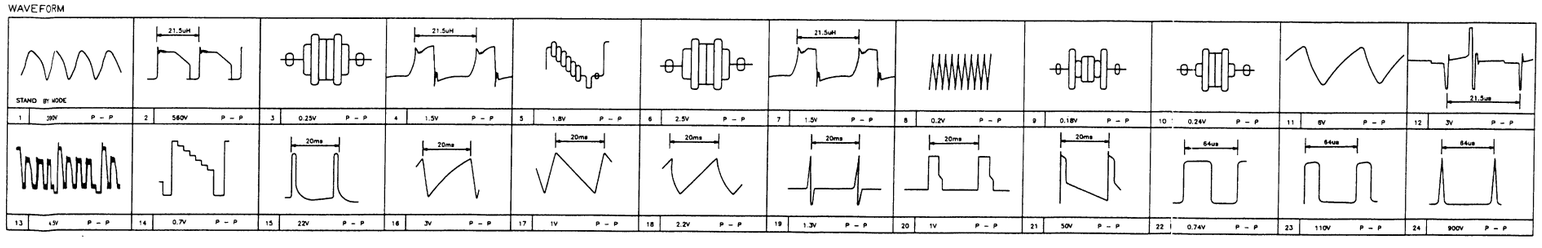
VIF BOARD



TELETEXT BAORD



WAVEFORM

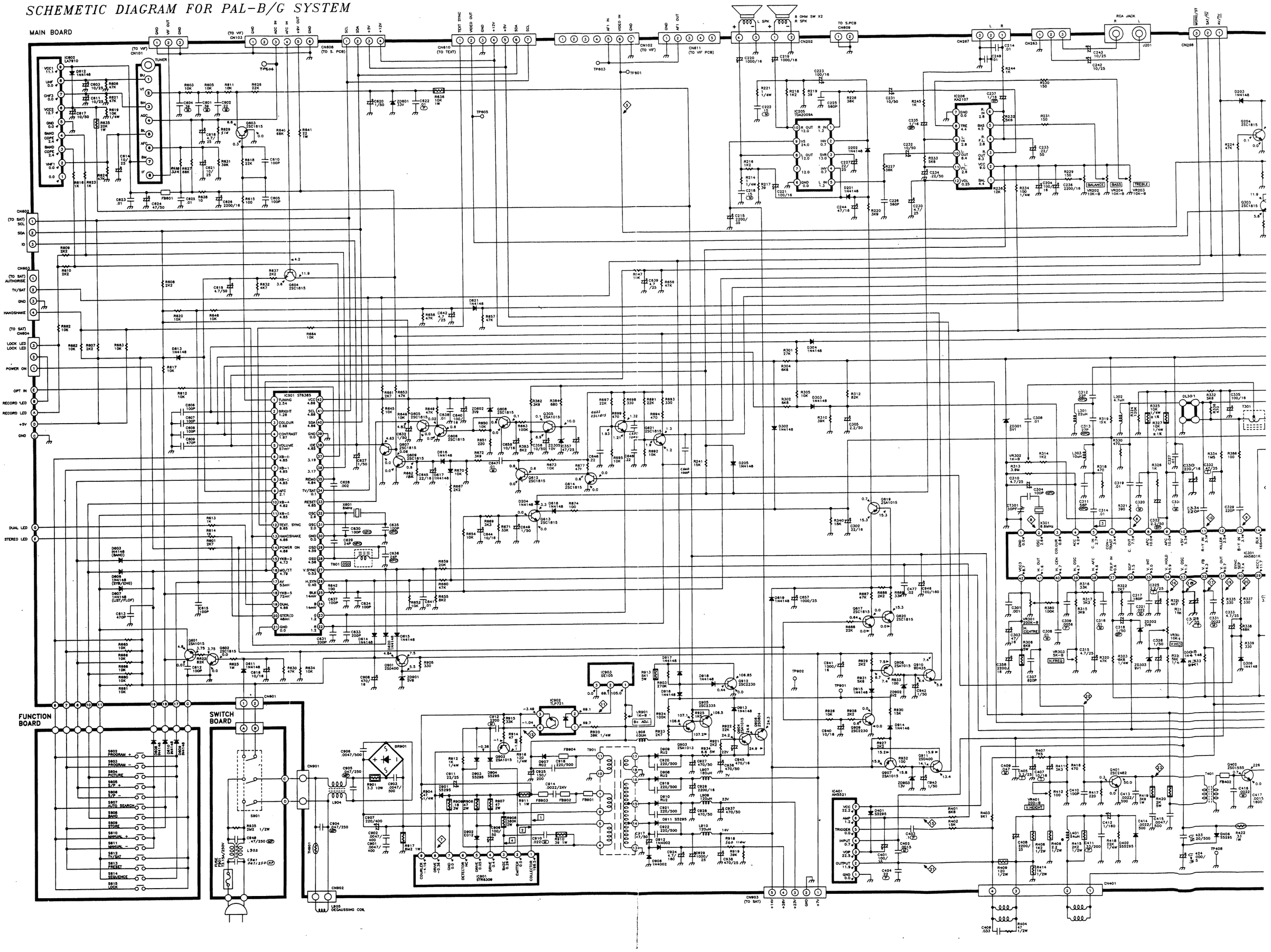


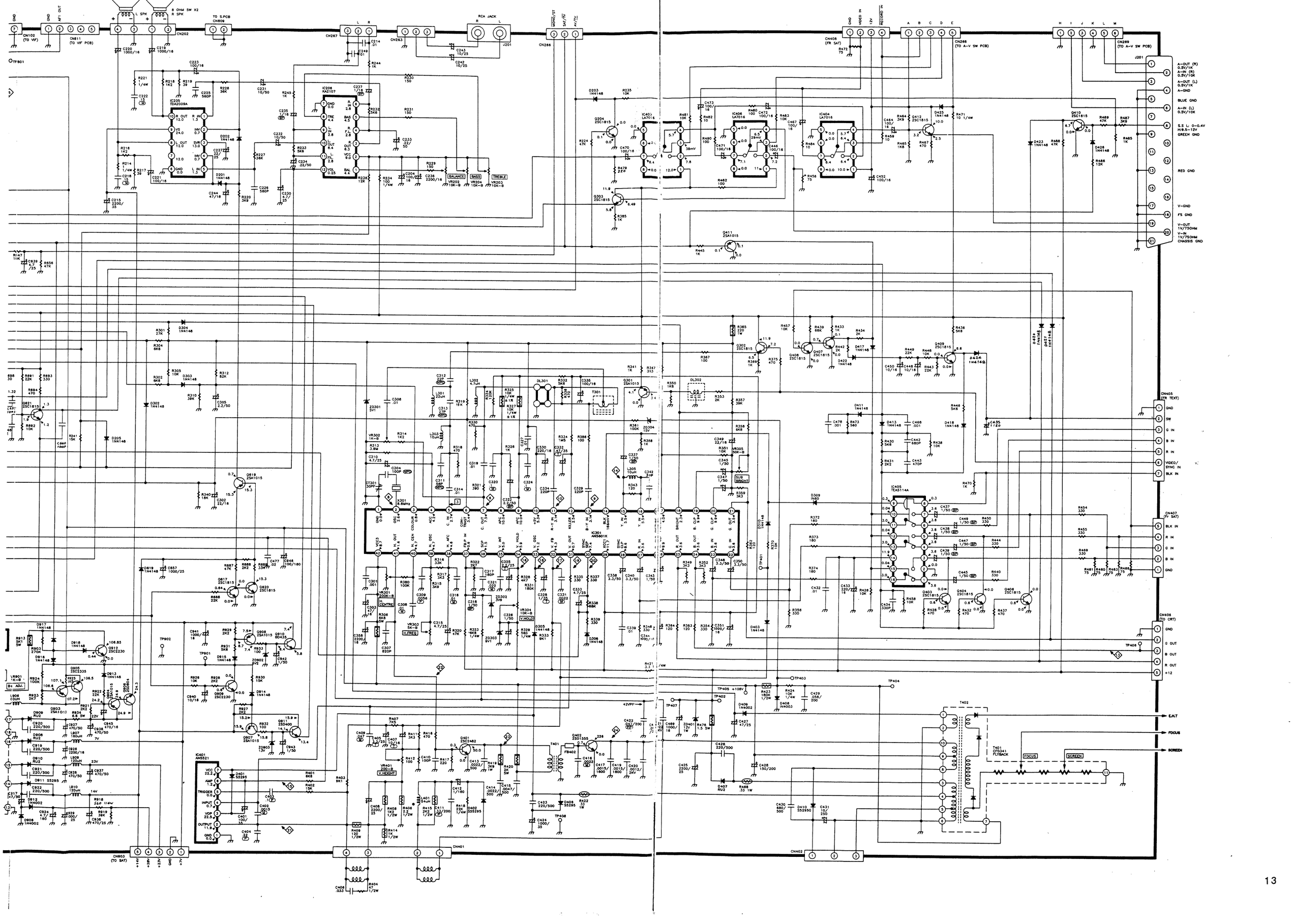
CIRCUIT SYMBOLS		
RESISTER	CAPACITOR	
NONFLAMMBLE	ELECTROLYIC	POLYPROPYLENE
FUSEBLE	BI-POLAR ELECTROLYIC	MYLAR
CEMENT	TANTALUM	
METAL OXIDE	METALLIZED POLYESTER	
THERMISTOR	POLYESTER FILM	

NOTE:

(1) ALL CAPACITORS ARE IN uF UNLESS OTHERWISE NOTED.
(2) ALL CAPACITORS ARE 50wv UNLESS OTHERWISE NOTED.
(2) CAPACITOR NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS.
(3) ALL RESISTORS ARE IN OHM 1/16 WATT UNLESS OTHERWISE NOTED.
(4) RESISTOR NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
(5) DC VOLTAGE ARE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR PHILIPS PATTERN).
(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
(8) ⚠ SAFETY CRITICAL DEVICE.

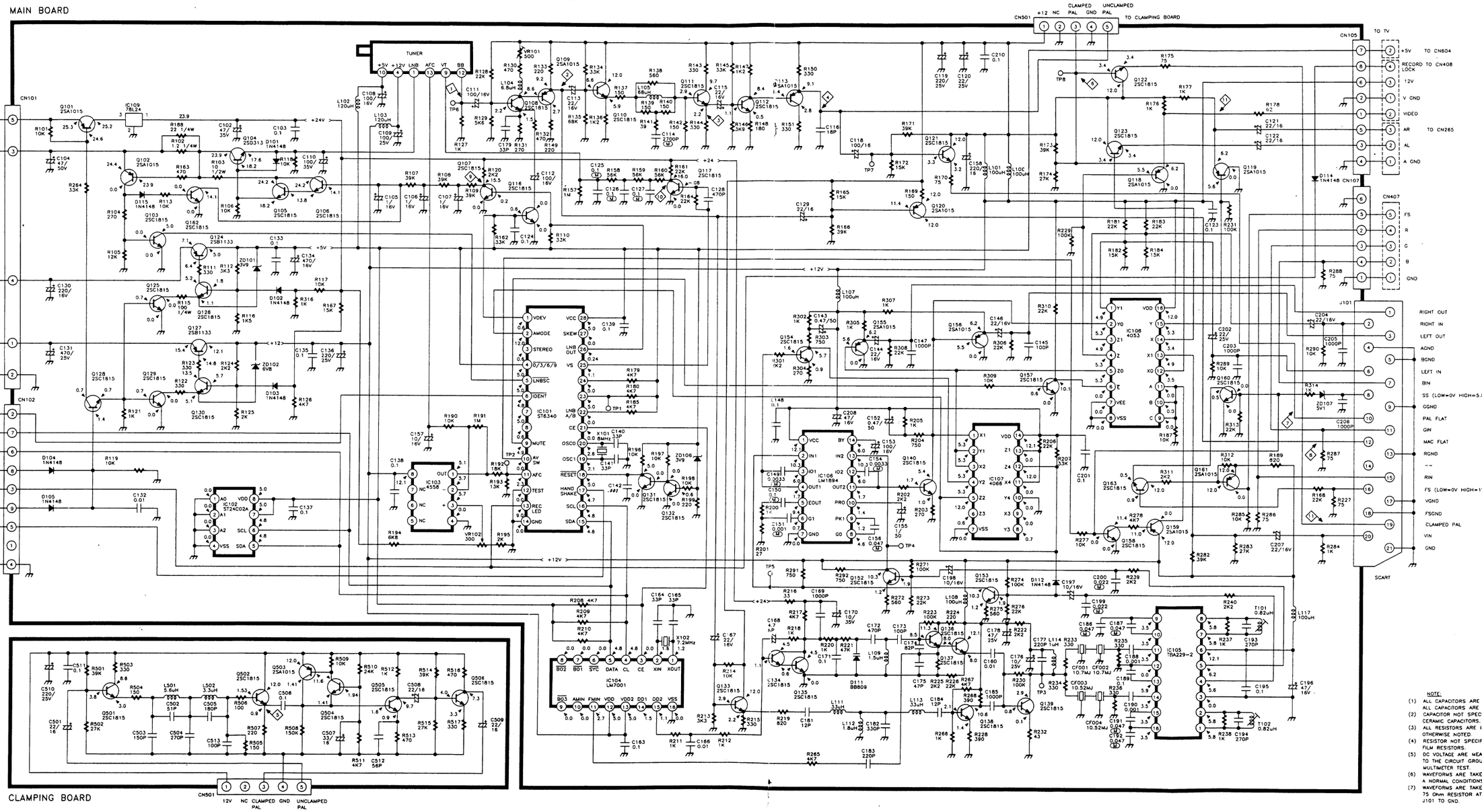
SCHEMETIC DIAGRAM FOR PAL-B/G SYSTEM




CN102 (TO VIF)
CN611 (TO VIF PCB)
8 OHM 5W X2
L SPK
R SPK
CN202
TO S.PCB CN809
CN267
CN263
RCA JACK
J201
CN266
CN408 (FR SAT)
CN268 (TO A-V SW PCB)
CN269 (TO A-V SW PCB)
A-OUT (R) 0.5V/1K
A-IN (R) 0.5V/10K
A-OUT (L) 0.5V/1K
A-GND
BLUE GND
A-IN (L) 0.5V/10K
S.S L: 0~0.4V H:9.5~12V
GREEN GND
RED GND
V-GND
FS GND
V-OUT 1V/75OHM
V-IN 1V/75OHM
CHASSIS GND
IC205 TDA2009A
IC206 KA2107
IC403 LA7016
IC406 LA7016
IC404 LA7016
IC405 TEA5114A
IC401 AN5521
IC301 AN5801K
BALANCE
BASS
TREBLE
V.CENTRE
V.HEIGHT
H.FREQ
V.HOLD
SUB BRIGHT
CN405 (TX TEXT)
CN407 (Fr SAT)
CN406 (TO CRT)
CN401
CN903 (TO SAT)
CN402
T402
T401 CF0341 FLYBACK
FOCUS
SCREEN
E.HT
FOCUS
SCREEN

SCHEMATIC DIAGRAM FOR SATELLITE RECEIVER PAL SYSTEM

MAIN BOARD



NOTE:

(1) ALL CAPACITORS ARE IN μF UNLESS OTHERWISE NOTED.
ALL CAPACITORS ARE 50v UNLESS OTHERWISE NOTED.
(2) CAPACITOR NOT SPECIFICLLY DESIGNATED ARE CERAMIC CAPACITORS.
(3) ALL RESISTORS ARE IN OHM 1/16 WATT UNLESS OTHERWISE NOTED.
(4) RESISTOR NOT SPECIFICALY DESIGNATED ARE CARBON FILM RESISTORS.
(5) DC VOLTAGE ARE MEASUED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH ▲ DIGITAL MULTIMETER TEST.
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (ONOSCOPE PATTERN).
(7) WAVEFORMS ARE TAKEN WITH CONDITION OF LOADING 75 Ohm RESISTOR AT PIN9, PIN12 & PIN19 OF J101 TO GND.

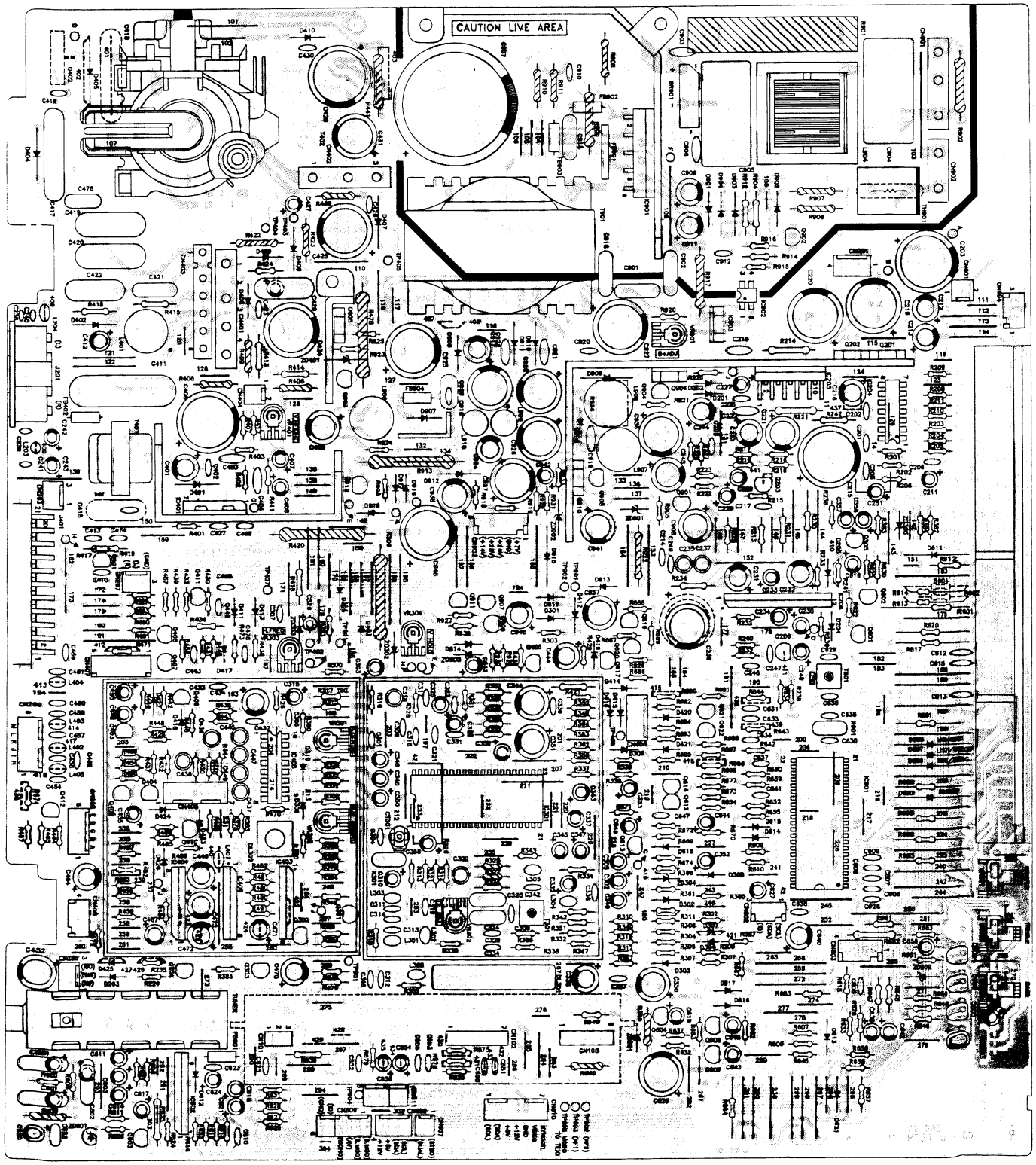
WAVEFORM

1	300MV P-P	2	1V P-P	3	400MV P-P	4	2V P-P	5	1V P-P	6	2V P-P	7	1V P-P	8	1V P-P	9	20V P-P	10	24V P-P	11	1V P-P

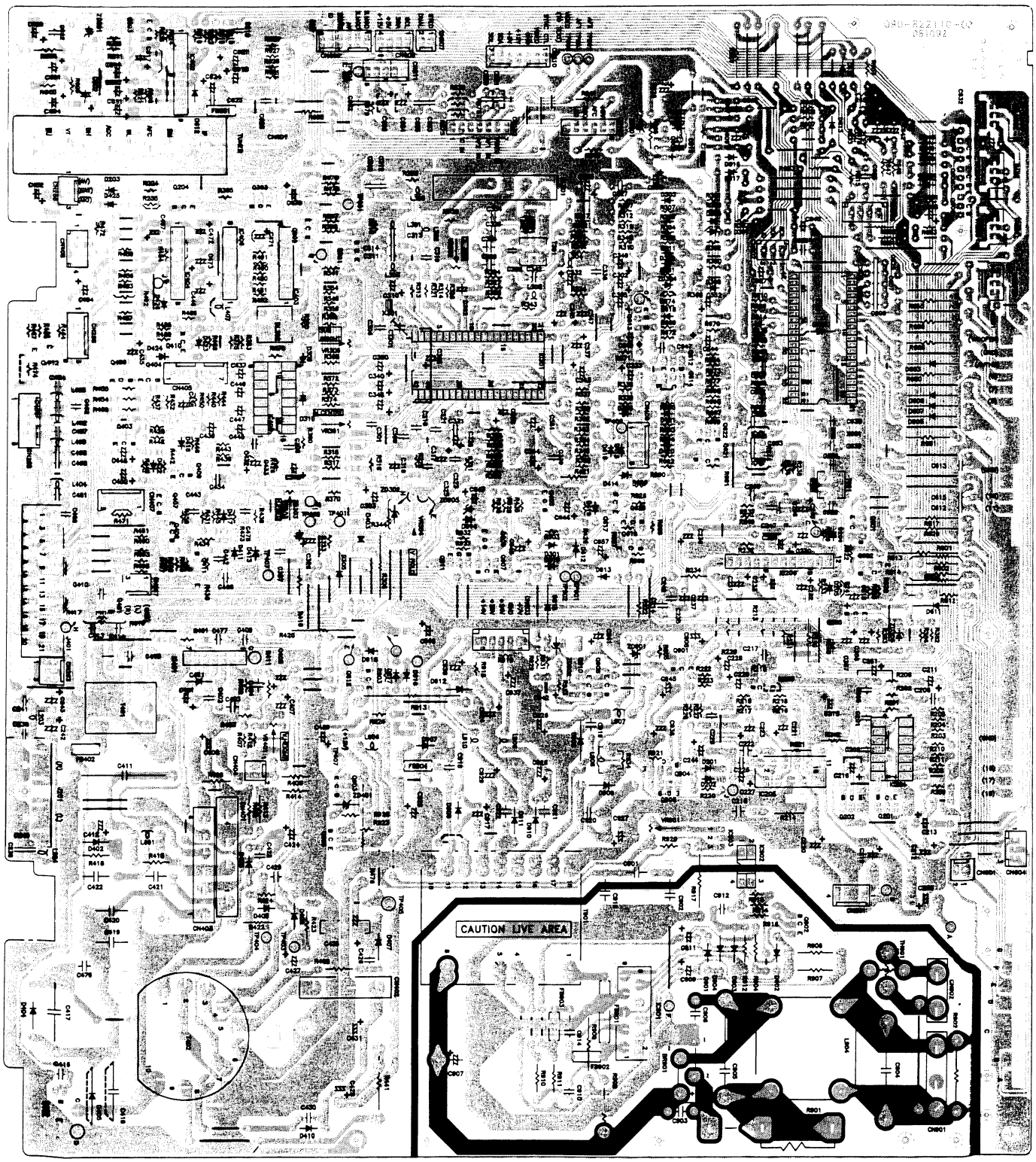
CIRCUIT SYMBOLS

RESISTOR	CAPACITOR		
NONFLAMMBLE	ELECTROLYIC	PP	POLYPROPYLENE
FUSEBLE	BI-POLAR ELECTROLYIC	M	MYLAR
CEMENT	T TANTALUM		
METAL OXIDE	MP METALLIZED POLYESTER		
THERMISTOR	P POLYESTER FILM		

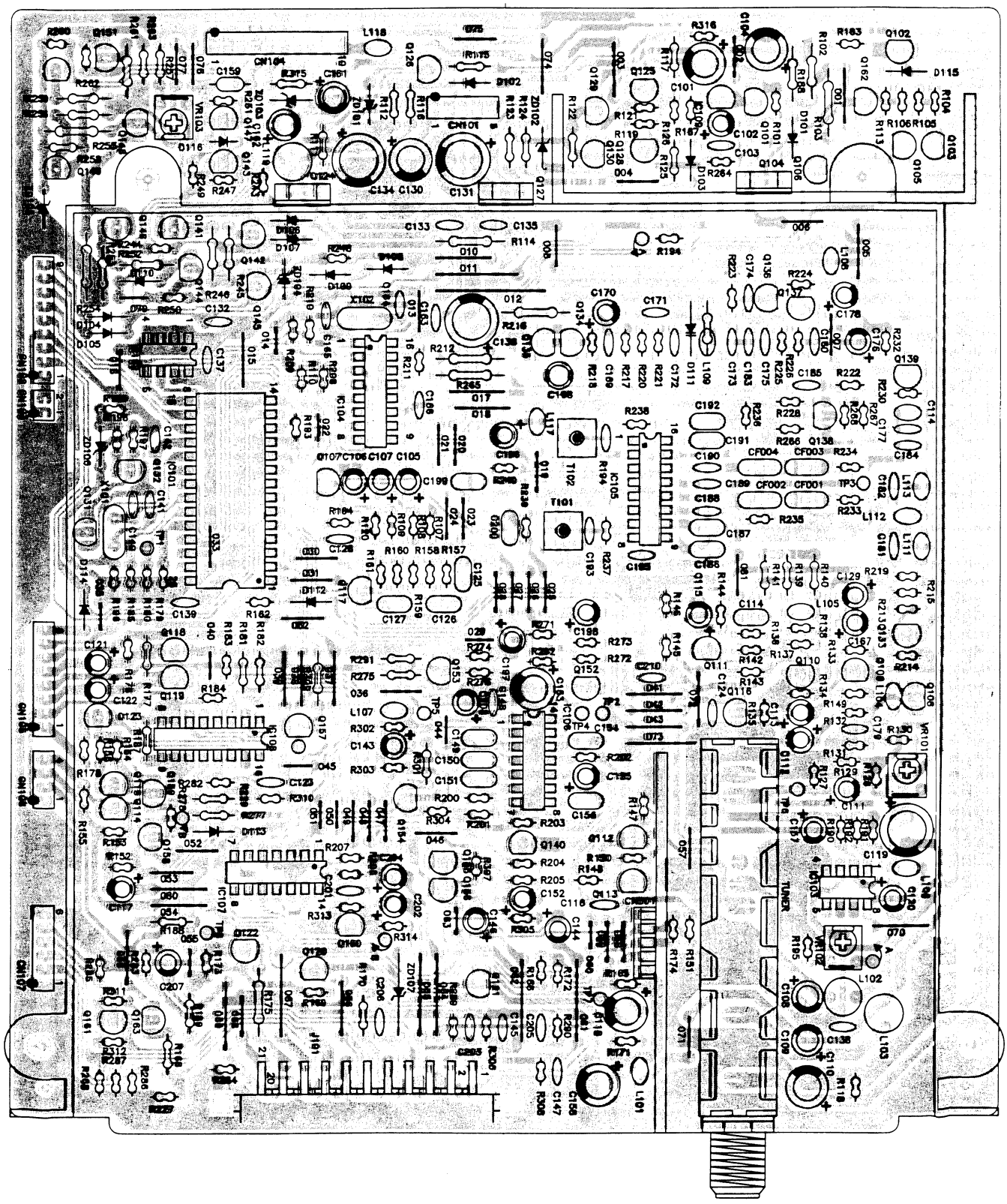
MAIN P.C.B. Top View
(For TV)



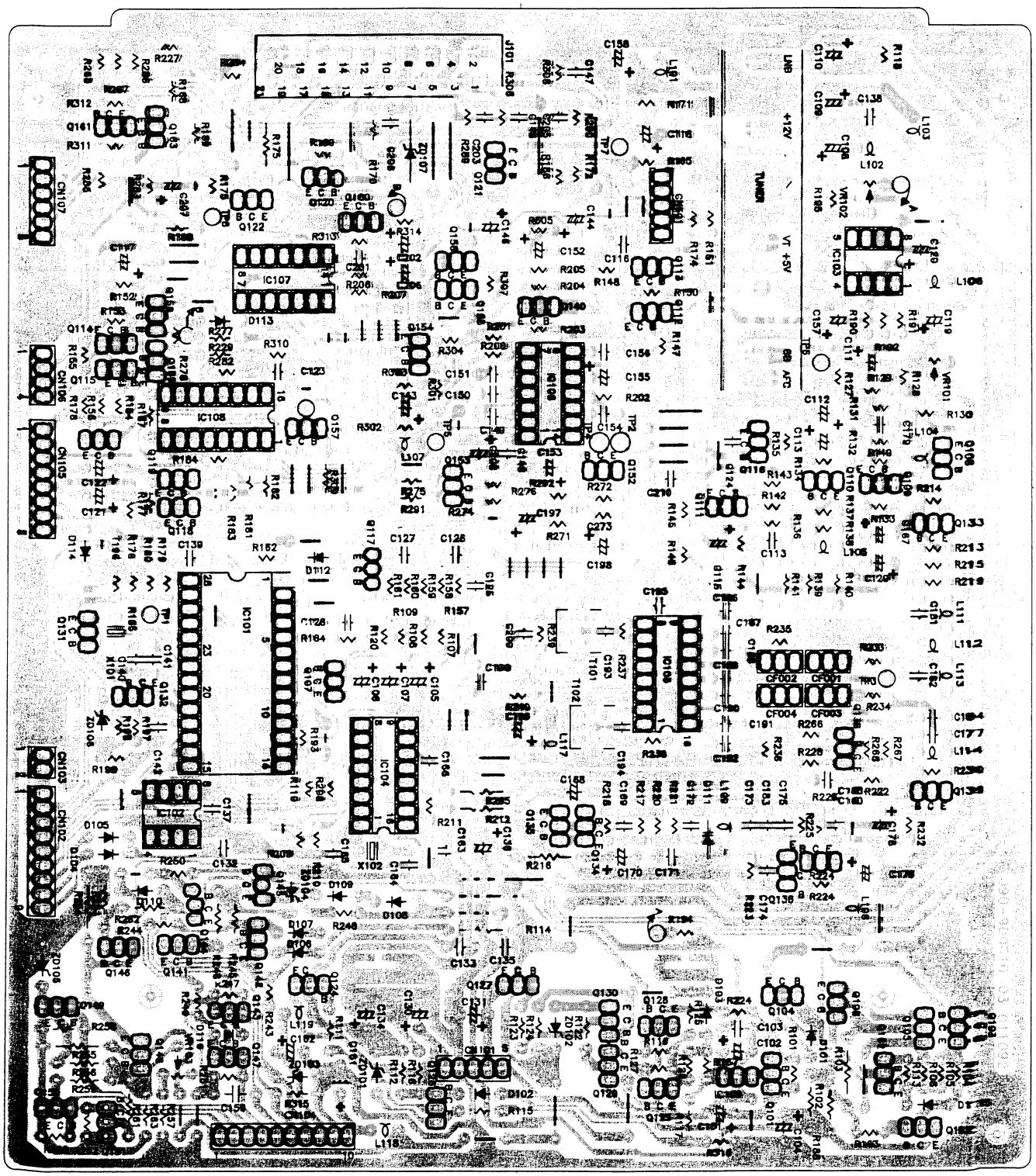
MAIN P.C.B. Bottom View
(For TV)



MAIN P.C.B. Top View
(For SAT)

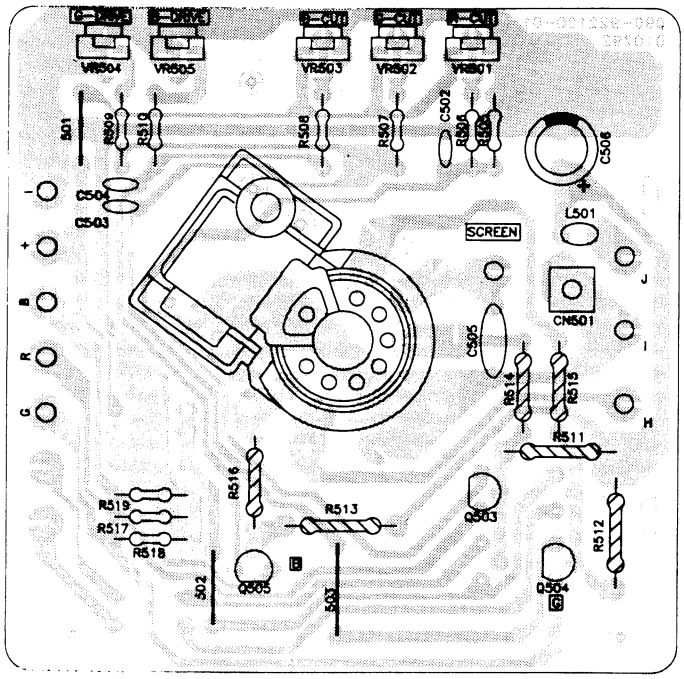


MAIN P.C.B. Bottom View
(For SAT)

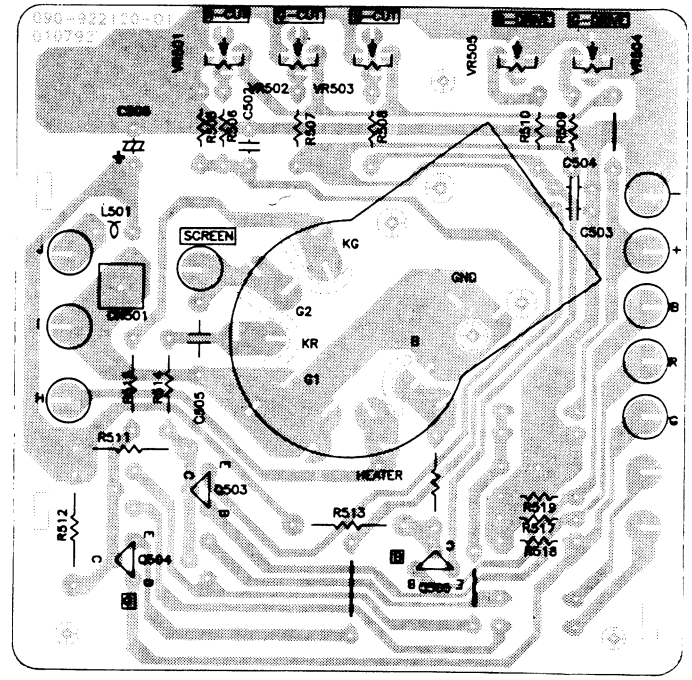


CRT P.C.B.

Top View

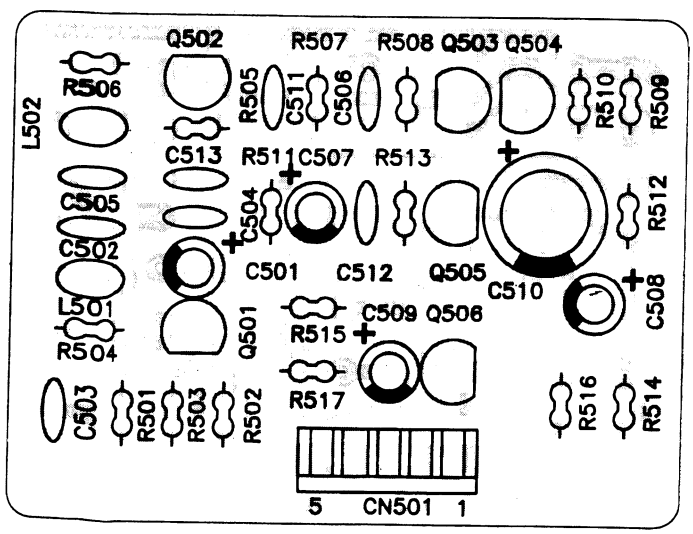


Bottom View

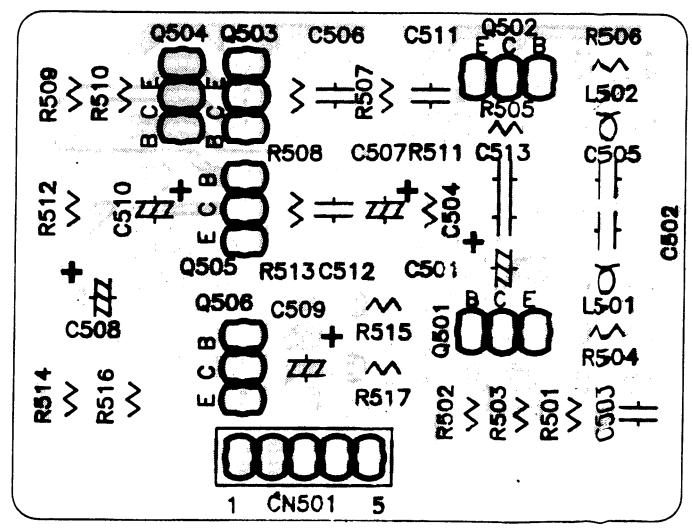


CLAMPING P.C.B.

Top View

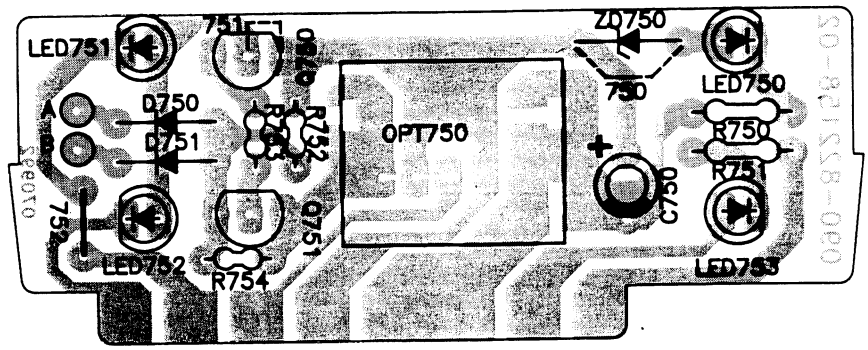


Bottom View

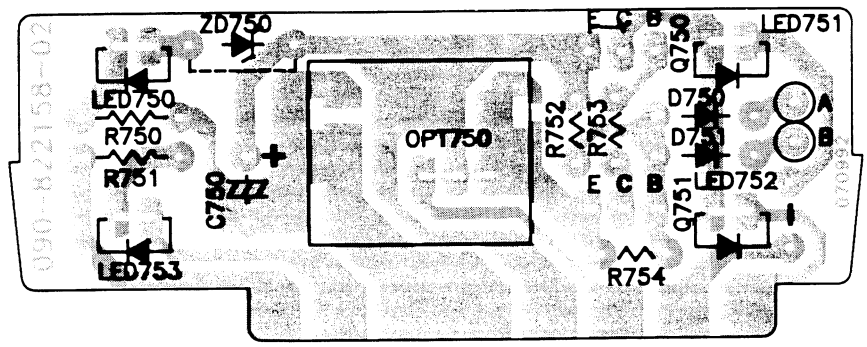


LED P.C.B.

Top View

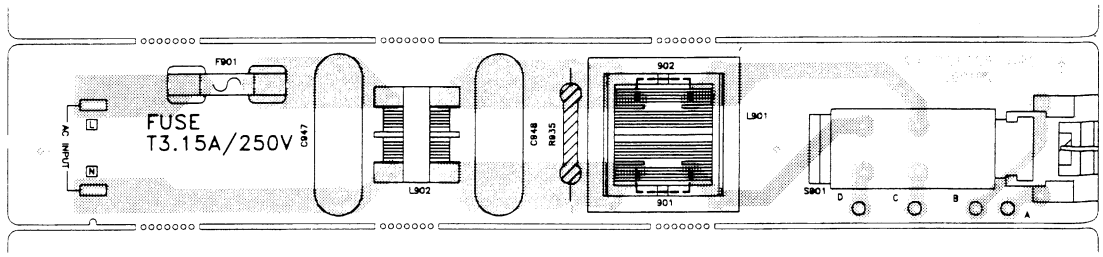


Bottom View

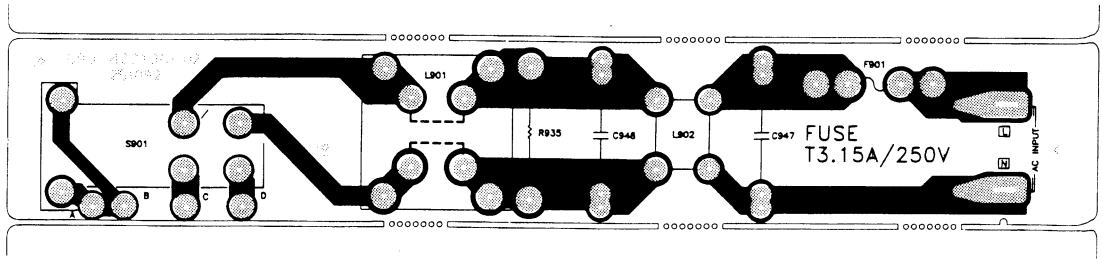


POWER SWITCH P.C.B.

Top View

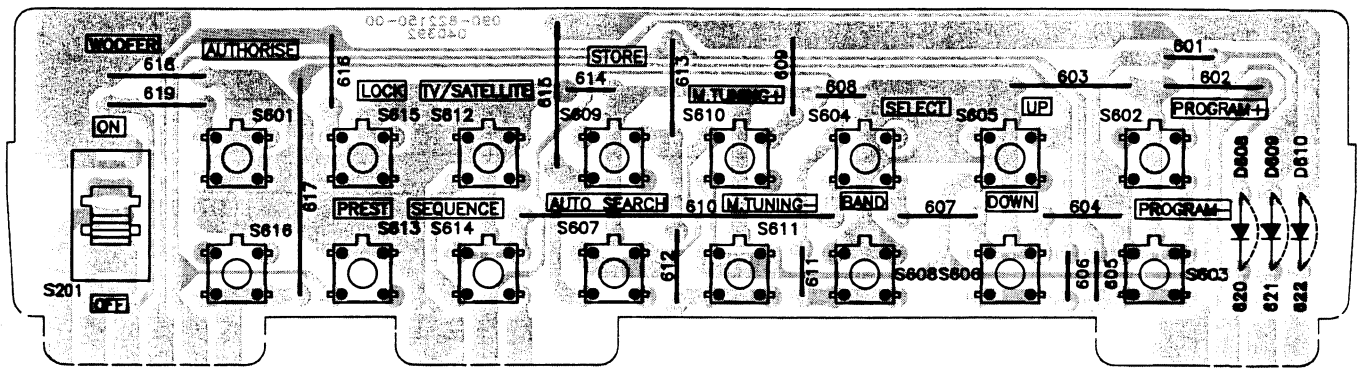


Bottom View

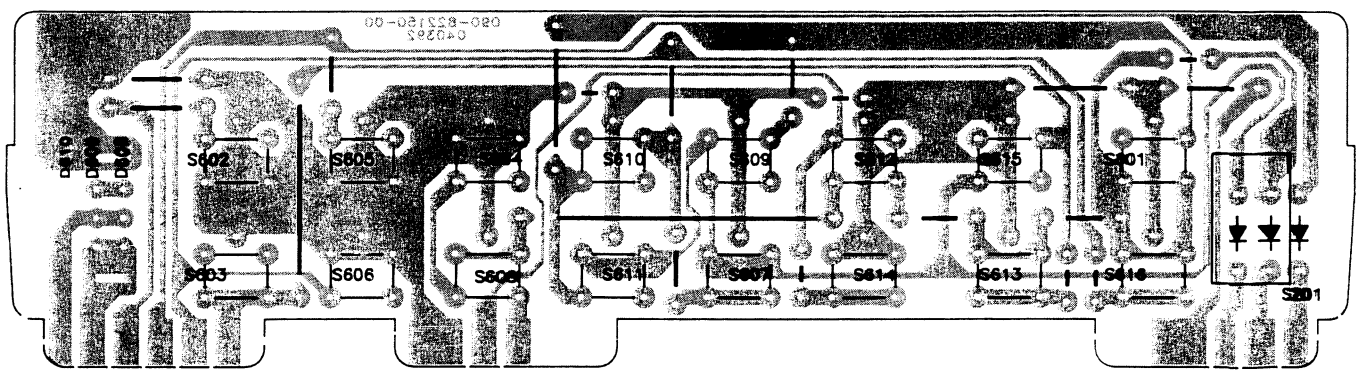


FUNCTION SWITCH P.C.B.

Top View

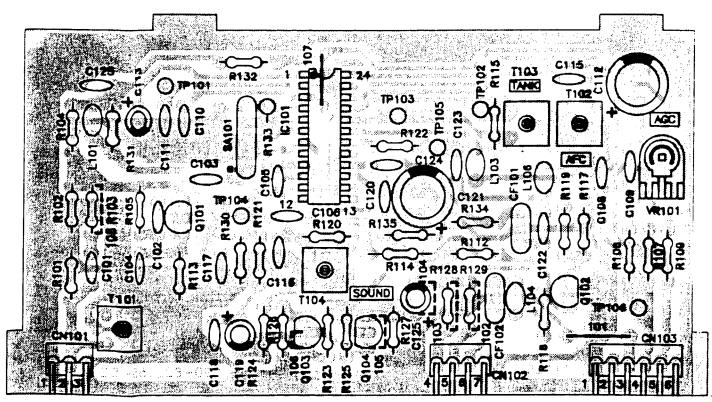


Bottom View

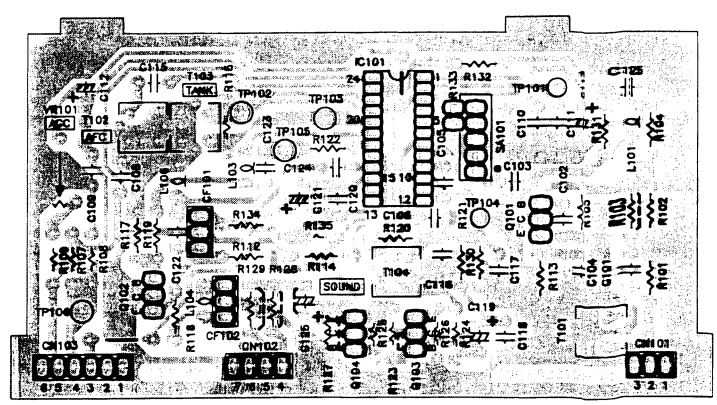


VIF P.C.B.

Top View

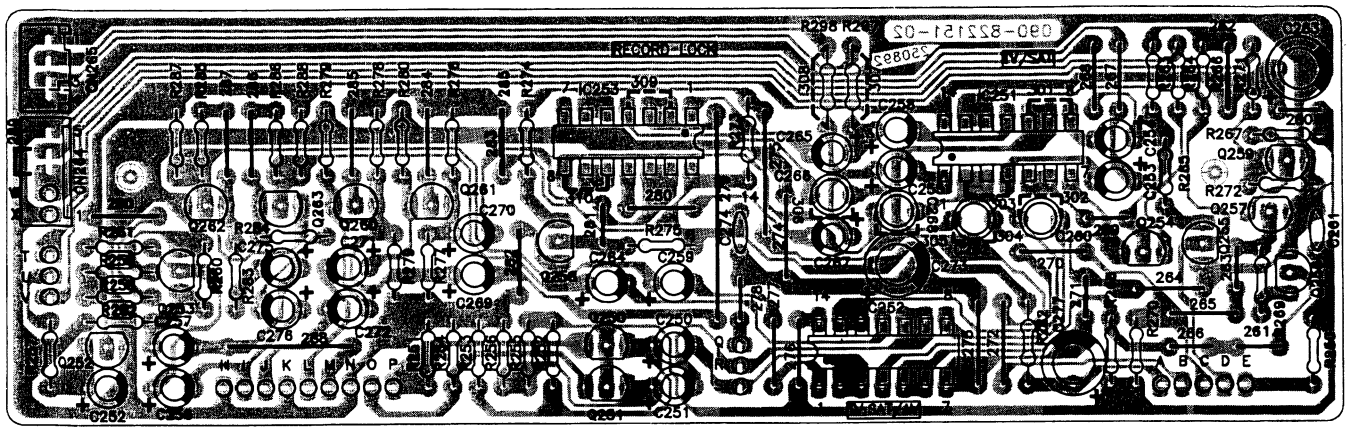


Bottom View

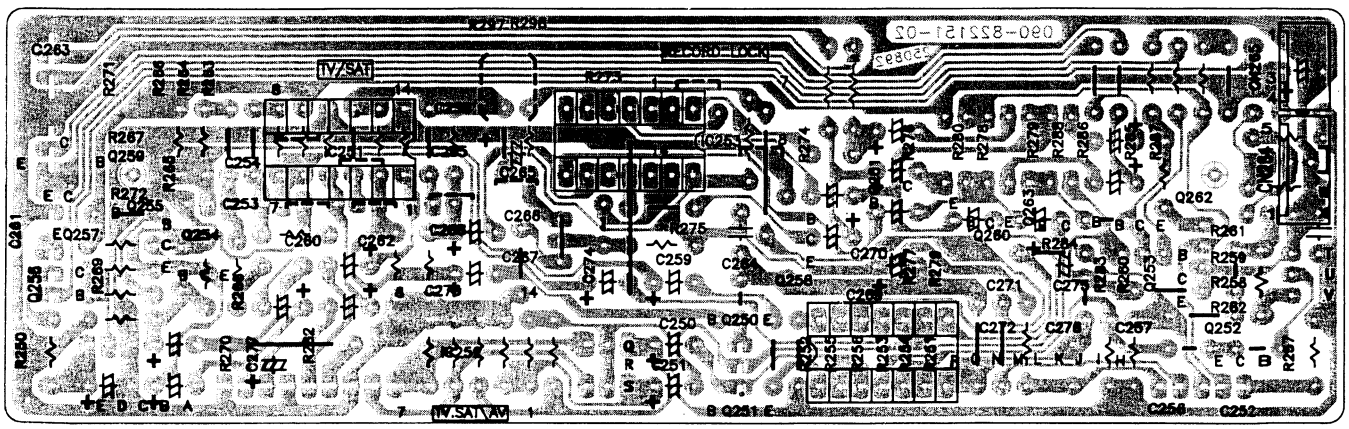


AV P.C.B.

Top View

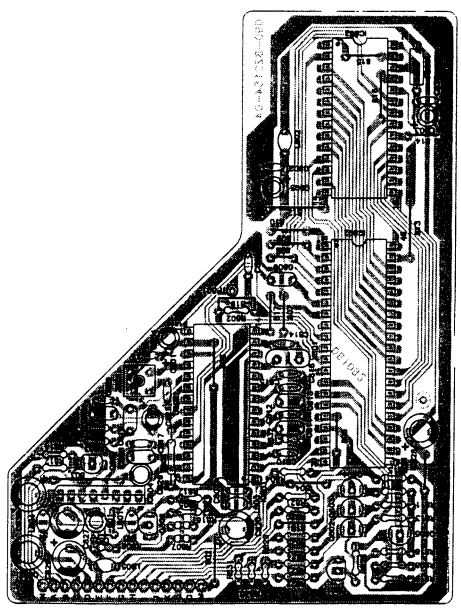


Bottom View

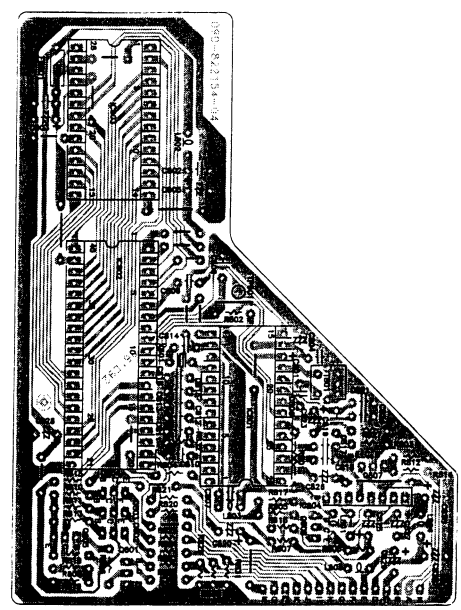


TELETEXT P.C.B.

Top View



Bottom View



Electrical Parts List

Ref. No.	Description	Pt. NO.
	ICs	
IC101	IC TA8611AN	241947
IC205	IC TDA2009A	241098
IC206	IC KA2107	241934
IC251-253	IC 4066 HCF4066BE	241681
IC301	IC AN5601K	241682
IC401	IC AN5521	241935
IC403,404,406	IC LA7016	240781
IC405	IC TEA5114A	241062
IC501	IC TEA5101A	241064
IC601	IC MCU ST6385	241936
IC602	IC LA7910	250206
IC801	IC SAA5231	241113
IC802	IC SDA5243	241940
IC803	IC KM6264BLP-103	241996
IC804	IC LA7016	240781
IC901	IC STR-S6309 LF953	241937
IC902 ⚠	IC TLP621	253327
IC903	IC SE105N	241938
	Transistors	
Q101	TR 2SC388ATM	241847
Q204,250-263 301,302,403 404,406-409 412,602-609 612-617,620 -622	TR 2SC1815 Y 2SC1685	170447
Q401	TR 2SC2482	241464
Q402	TR 2SD1555 E	175665
Q102,405,411 601,611,619 805,807,902 904,907,908	TR 2SA1015 Y 2SA719 R	170453
Q801-804,806	TR 2SC1815 Y	170447
Q901,911	TR 2SD400F	254930
Q903	TR 2SA10130	270767
Q905	TR 2SC2335 K	241679
Q906	TR 2SD804	241997
Q909,912	TR 2SC2230 Y	241678
Q910	TR BD435	203718
	Diodes	
BR901	D D2SBA S60 6B Bridge Rect	241760
D201-204,301 -303,305,306 310,403,408 409,411,413 -424,603,605 -611,613-619 621,801,906 912-918	D1N4148	270754
D309	D IN60	15001
D401,402,406 410,901,903 904,910,911	D S5295G BYT52K DFD05TG	241999
D407,908,909	D RU2 Rect	241814
D902	D FG1Z Rect	242000
D907	D RG2 Rect	241815
LED601-604	LED SEL2110R Red	241471
ZD301	DZ 5.1V	1422113
ZD302,602	DZ 3.9V	175638
ZD303	DZ 9.1V MA1091-M	809221
ZD304	DZ 8.2V	175764
ZD401	DZ 12V MA2120	241939
ZD601	DZ KA33V	241693
ZD603	DZ 10V	254355
ZD901	DZ 5.6V	272308
ZD902	DZ6.2V	254354
ZD903	DZ 13V MTZ13C 1/2W	254368

Ref. No.	Description	Pt. NO.
	Coils	
L101	Coil TRAP ELB-5A019G	242087
L102	Coil 0.82μH EL0606SKI-R82M	241953
L108	Coil 24μH EL0606SKI-240K	
L301,304,305	Coil 10uH EL0606SKI-100K	
L103,,105302	Coil 4.7μH EL0606SKI-4R7K	242039
L303	Coil 18μH EL0606SKI-180K	
L306	Coil 27μH EL0606SKI-270K	
L401	Coil 54μH HCL-91278-04	242040
L801,802	Coil 22μH EL0606SKI-220K	
L104,803	Coil 15μH EL0606SKI-150K	
L804,805,901	Coil 100uH EL0606SKI-101K	
L905	Degauss Coil 21"	241913
L906	Coil 60uH	242041
L907,908	Coil Choke 160uH	242038
L909,910	Coil Choke 120uH 622LYF-121K	
T101	Coil IFT TV M7-M / 33331	241675
T102	Coil IFT Video A1463EL	241945
T103	Coil IFT Tank A1468EL	241944
T104	Coil IFT Chroma 51M7-M / R12-L243A	241488
T301	Coil IFT Chroma A1545HF	241930
T401	Tx Hori Drive AT-19E-R0710	241671
T402	Tx Flyback CF0341	241691
T601,801	Coil Osc 7E6-2033	241931
T901	Tx Switching EI-49	241929
	Filters	
CF101	Ceramic Filter 5.5Mhz SFE-5.5MB	173035
CF102	Trap Filter 5.5Mhz TPS-5.5MB	241765
DL301	Delay Line PDL-644KIP YCS-EN645 / YTS-8B2	241619
DL302	Delay Line ELT10Z216	241759
L902	Line Filter F0046TAZZ	241903
L903,904	Line Filter ELF18D615G 39mH	241865
SA101	Saw Filter 38.9MHZ B39389-G1962M-N100	241503
	Switches	
S601-615	Switch Tact 01-40	241809
S901	Switch Power 01-48	241608
	Variable Resistors	
VR202-204	VROT 10K Ω103299	242003
VR301,305	VRSF 200K Ω 204321	242004
VR302	VRSF 1K Ω 102321	241750
VR303	VRSF 5K Ω 502321	241710
VR101,304	VRSF 10K Ω 103321	242005
VR401	VRSF 500 Ω 501541	241709
VR501-505	VRSF 2K Ω 202330	242006

Ref. No.	Description	Pt. NO.
	Miscellaneous	
	C.R.T. 21" A51JSW90X10	241692
	C.R.T. Socket 660063	241928
⚠	AC Line Cord W/Plug Black	242086
	Tuner uHF/VHF UVE33- W21	241811
	TUNER DBS BSFB75G06	241962
TH901	P.T.C. Theremister ZPB53BL200C	241506
CT301	Trimmer Capacitor 30pF	
OPT601	Optical Receiver Module HC-370M	241605
X101,601	Crystal 8Mhz 30PPM	241961
X102	CRYSTAL 7.2MHZ	241960
X301	Crystal 8.867238MHZ	241747
X801	CRYSTAL 13.875MHZ	241149
J201	RCA Socket	242007
J401	21 Pin Scart Socket	153030
F901 ⚠	Fuse T4A 250V	194246
	Remote Control Handset	242089
	Speaker 4"X2.75" 8 Ohm 5w	241963
	Mica Sheet T0126 For IC402, Q202,905,906,910	242008
	Bushing TO-220D For IC402 Q905,906	242009
	Mica Sheet 1s 313b For Q104	242011
	Bushing Type M For Q104	242012
	Catron	242092
	Poly Packing	241918
	User Instructions	242091
	Cover Plate Videocrypt Slot	

Description	Ref. No	Pt. No.
	Resistors	
	Carbon Film 1/16W	
10 Ω	R515,638	
15 Ω	R102	
27 Ω	R105	
33 Ω	R217,219	
47 Ω	R914	
75 Ω	R456,460,461,463,466,472	
82 Ω	R101,822-827,830,831	
100 Ω	R234,367,412,429,486,492,493,615 642-644,674,932,933	
120 Ω	R343,362-364	
150 Ω	R118,229-231	
180 Ω	R372-374	
220 Ω	R106,110,114,417,651,818	
270 Ω	R693,698	
330 Ω	R112,335,337,339,342,346,354,356 440,444,450,454,455,469,905	
390 Ω	R111,119321,502-504	
470 Ω	R330,336,375,416,428,432,437,467 807,820,821	
510 Ω	R505-507	
560 Ω	R473,694,699	
680 Ω	R668	
820 Ω	R478,806	
1K Ω	R103,116,122 226,227,251,254,280,281,326,341 368,369,404,405,433,445,470,479 480,482,484,485,490,501,516-518 602,604,613,614,616,623,690,696 802,809-811,813,817	
1.2K Ω	R216,218,314,691,697	
1.5K Ω	R121,225,287,288,355,925	
1.8K Ω	R465,676	
2K Ω	R434,442	

Description	Ref. No	Pt. No.
2.2K Ω	R431,435,607-610,637,688,826,921 927-929	
2.7K Ω	R322,350,601,661,815,923	
3.3K Ω	R115,317,347,349,352,359,411,669 803	
3.6K OHM	R117	
3.9K Ω	R220,315,464,487,665,672,808	
4.7K Ω	R318,632	
5.1K Ω	R104	
5.6K Ω	R120,232,233,332,430,436,446 678,681,931	
6.8K Ω	R302,401,819	
8.2K Ω	R328,407,655	
9.1K Ω	R333,357	
10K Ω	R109,113 235,252,253,255,256,258,263,266 268,270,271,273,275-279,301,303 305,340,351,355,358,370426,438 448,457-459,481,483,491,603,605 606,611,612,616,617,619-621,623 633,634,645-648,650,652,654,664 666,670,673,680,682,692,695,828 926	
12K Ω	R403,832	
15K Ω	R304,309,319,402,930	
20K Ω	R283,284	
22K Ω	R443,449,618,626,686,922	
33K Ω	R285,286,316,628,671,689,915	
39K Ω	R261,262,310,631	
47K Ω	R224,257,260,264,267,272,320,488 489,621,630,649,653.656,657,660 662,677,687,812,814	
51KΩ	R360	
56K Ω	R265,269,274,361	
68K Ω	R338,439,627,640,801	
82K Ω	R312,622	
100K Ω	R107,108,259,380,663,924	
120K Ω	R324	
150K Ω	R629	
180KΩ	R331	
1M Ω	R625	
1.5M Ω	R334	
3.9M Ω	R313	
	Carbon Film 1/4w	
1 Ω	R214,221	
3.3 Ω	R421	
10 Ω	R282	
22 Ω	R250	
47 Ω	R904	
120 Ω	R916	
560 Ω	R329	
820 Ω	R919	
1K Ω	R912	
6.8K Ω	R323	
10K Ω	R424	
20K Ω	R659	
22K Ω	R418	
39K Ω	R920	
270K Ω	R903	

Description	Ref. No	Pt. No.
	Carbon Film 1/2w	
1K Ω	R511-513	
2.2K Ω	R415	
5.1K Ω 5W	R913	242019
	Flame Proof Carbon Film 1/2w	
2.2 Ω	R406	242024
470 Ω	R409	241520
180K Ω	R423	242025
	Metal Oxide	
0.18 Ω 3W	R909	242013
1 Ω 1W	R911	255167
1.5 Ω 5W	R476	242014
10 Ω1W	R514	177360
22 Ω 1W	R641	242015
39 Ω 1W	R910	242016
47 Ω 2W	R906,907	253632
220 Ω 1W	R365	177363
1.2K Ω 1W	R408	157666
2K Ω 5W	R420	242018
3.9K Ω	R419	176414
6.8K Ω 5W	R306	242020
10K Ω 1/4W	R325,327	241857
10K Ω 1W	R636	242021
20K Ω 1W	R635	242094
56K Ω 1W	R508-510	242022
360K Ω 2W	R908	242023
8.2M Ω 1W	R917	241602
	Cement	
3.3 Ω 3W	R441	241933
3.3 10W	R901	274025
	Fuse	
0.68 Ω 1/2W	R468	241513
0.68 Ω 1W	R422	241805
	Capacitors **Ceramic**	
10pF	C501-503	
15PF	C103,,104,810,814	
18pF	C313,808	
22PF	C115	
24pF	C629,636	
27pF	C312,807	
47pF	C122,123,342	
68pF	C311	
100pF	C304,410,605-608,610,612,615,630 634,635,637,816	
120pF	C102,336,346	
180pF	C317	
200pF	C631,633	
220pF	C329,334,817	
220pF ⚠ 500V	C423,426,918-922	174811
270PF	C815	
330pF	C434	
470pF	C443,609,613,659,812	
560PF	C809	
680pF	C442	
680pF ⚠ 500V	C430	176462
820pF	C117,307	
1200pF ⚠	C504-506 500V	176488

Description	Ref. No	Pt. No.
1200pF ⚠ 2KV	C420	242036
0.001μF	C108,301,323,,468	
0.002μF	C628	
0.0022μF ⚠ 400V	C916	253610
0.0022μF ⚠ 500V	C413,414	176754
0.0022μf 2KV	C421,914	271426
0.0047μF ⚠ 500V	C903,930,944	242098
0.0056μF ⚠ 2KV	C507	242099
0.01μF	C101,105,106,109,110,114,116,120,124 225,226,261,274,308,314,319,327 339,432,453,622,623,625,638,641 651,652,655,801,802,830,906,931 -939	
0.02μF	C418	
0.1μF	C403	
	Electrolytic	
0.22μF 50V	C233,234	
1μF 50V	C252,326,343,345,347,627,632,649 942,943	
1μF NP 50V	C318,437-439,445,447,449	
1μF 160V	C412	
2.2μF 50V	C119,305,826	
2.2μF NP 50V	C322	
3.3μF 50V	C338,340,348,350	
4.7μF 25V	C230,310,315,333,618,639,642	
4.7μF 50V	C619,643	
10μF 16V	C302,448,450,616,644,645,645,658 803-805,940	
10uF NP 16V	C260,262,266,268,337,654,825	
10μF 25V	C235,237,242,243,250,251,253-255 258,259,264,265,267,269-272,407 611,614,617,621	
10μF 50V	C646	
10μF ⚠ 250V	C431,509	241711
22μF 16V	C349	
22μF 25V	C227,275,276,911	
47μF 16V	C244,256,257,303,823	
47μF 25V	C427,624,648,917	
47μ 50V	C924	
100μF 16V	C204,221,223,231,335,446,452,464 467,470-475,640,828,829	
100μF 25V	C232	
100μF 35V	C401	
100μF 50V	C909	
100μF ⚠ 160V	C946	
150μF ⚠ 200V	C428,925	
220μF 16V	C112,330,433,508,822	
220μF ⚠ 400V	C907	272870
330μF 16V	C121	
470μF 16V	C263,273,344,351,444,908,945	
1000μF 16V	C219,220,436,469,941	
1000μF 25V	C657,929	
1000μF 35V	C224,424,928	

Description	Ref. No	Pt. No.
	Electrolytic	
2200uF 16V	C236,626,926	
2200µF 25V	C408,425	
2200µF 35V	C927	
	Mylar	
	Unless stated working 100 volts	
0.001UF	C811	
0.0015µF	C402	
0.0022µF	C331,416,912	
0.01µF	C306,316,647,806	
0.022µF	C321,813,910	
0.03µF	C111	
0.047µF	C409,821,824	
0.068µF	C818	
0.1µF	C218,222,320,324	
0.22µF	C404,602	
0.39µF	C601,604	
	Poly	
	Unless Stated Working 50 Volts	
0.0056µF	C309	
0.027µF	C406	
0.047µF	C118	
	Polypropylene	
	Unless Stated Working 200 Volts	
0.047µF	C415,422	
0.056µF	C429	
0.33µF	C411	
	Tantalum	
0.47µF 35V	C113,332	242097
1µF 35V	C328	242043
2.2µF 25V	C405	241200
3.3µF 25V	C325	201721
	Metal Poly	
0.0015µF ⚠ 1.6KV	C417,419	271245
0.047µF ⚠ 250VAC	C901-905	253611
0.22µF	C819	

	STV2104 Satellite Section	
Ref. No.	Description.	Pt. No.
	ICs	
IC101	IC ST6340	241956
IC102	IC ST24C02A	241954
IC103	IC MC4558CN	241959
IC104	IC LM7001	241958
IC105	IC TBA229-2	40253
IC106	IC LM1894N	241393
IC107	IC 4066	241807
IC108	IC HCF4053BEY	241955
IC109	IC MC78L24ACP	241957
	Transistors	
Q101,102,109 13,115,118-120,142,145 149-151,155 156,159,161	Tr 2SA1015 Y	170453
Q103,105-108 110-112,114	Tr 2SC1815 Y	170447

Ref. No.	Description.	Pt. No.
	Transistors	
116,117,121-123,125,126 128-140,143 146-148,152-154,157,158 160,162	Tr 2SC1815 y	170447
Q104	Tr 2SD313	242027
Q124,127	Tr 2SB1133	242028
Q141,142	Tr 2SD400F	254930
	Diodes	
D101-107,110 112,114,115	D 1N4148	270750
D108,109	D 1N4002	175543
D111	D BB809 Varicap	241998
DP103,104	DZ 5.6V	272308
ZD101,106	DZ 3.9V	175638
ZD102,105	DZ 6.8V	171488
ZD107	DZ 5.1V	1422112
	Coils	
L101-103,106 108,117,118	Coil 100µH EL0606SKI-101K	
L105	Coil 68µH EL0606SKI-680K	
L107	Coil 100µH EL0606SKI-101K	
L109	Coil 1.5µH EC22T-1R5K	
L111,113	Coil 33µH EL0606SKI-330K	
L112	Coil 1.8MH EL0606SKI-1R8K	
L114	Coil 1µH EL0606SKI-1R0K	
L115,116	Coil IFT PNK1191 7mm	242001
L119	Coil 10µH EL0606SKI-100K	
L703	Coil 5.6µH EC22T-5R6K	
L704,V04	Coil 3.3µH el0606SKI-3R3K	
	Variable Resistors	
VR101,103	VRSF 500 Ω 501541	241756
VR102	VRSF 300 Ω 301541	241755
	Filters	
CF001,002	Ceramic Filter 10.7MHz SFE10.7MJA10-A	241027
CF003,004	Ceramic Filter 10.52MHz SFE10.52MJA10-A	241366
	Crystals	
X101	Crystal 8MHz	241961
X102	Crystal 7.2MHz	241960

Descriptions	Ref. No.	Pt. No.
	Resistors	
	1/16w 5% Carbon	
3.9 Ω	R243	
5.6 Ω	R248	
27 Ω	R201	
33 Ω	R216	
39 Ω	R141	
43 Ω	R232	
47 Ω	R245	
56 Ω	R178	
75 Ω	R170,175,227,286-288	
150 Ω	R137,139,140,142,169	
180 Ω	R148	
220 Ω	R133,149,199,224	
270 Ω	R104,131,176,177	

Descriptions	Ref. No.	Pt. No.
	1/16w 5% Carbon	
330 Ω	R111,122,123,130,143,144,150,151	
390 Ω	R228,268	
470 Ω	R132,154,163,272,275	
560 Ω	R138	
750 Ω	R204,303	
820 Ω	R189,213,219	
1K Ω	R121,127,155,200,203,205,211,212 218,220,237,238,266,284,291,292 302,304,305,307,314,	
1.2K Ω	R136,147	
1.5K Ω	R257	
1.8K Ω	R116	
2K Ω	R195	
2.2K Ω	R120,124,125,194,202,222,225,239 240,301,311,316	
3.9K Ω	R112,146	
4.7K Ω	R126,179,180,185,208-210,217,250 265,267,278	
5.6K Ω	R129	
6.8K Ω	R263	
8.2K Ω	R172	
10K Ω	R101,106,113,118,119,187,190,196-198,214,244,247,249,251,258,260 262,277,285,289,290,309,312	
12K Ω	R105	
13K Ω	R193	
15K Ω	R165,167,182,184	
18K Ω	R192	
22K Ω	R117,128,161,164,168,181,183,206 226,273,276,306,308,310,313	
27K Ω	R174,283	
33K Ω	R110,134,145,162,171,207,264	
39K Ω	R107-109,152,153,166,173,282	
47K Ω	R221	
56K Ω	R158-160	
68K Ω	R135	
100K Ω	R223,230,271,274	
1M Ω	R157,191	
	1/4w 5% Carbon unless stated differently	
1.2 Ω	R102,L09	
10 Ω 1/2w	R103	
100 Ω	R115,246	
120 Ω 1/2w	R254	
470 Ω 1/2w	R255	
1.5K Ω	R315	
4.7K Ω	R252	
	Metal Oxide	
1.07K Ω 1/4w 1%	R256	242029
	1/4w Metal Film	
169 Ω 1%	R261	242030
1.82K Ω 1%	R259	242031
1.96K Ω 1%	R253	242032

Descriptions	Ref. No.	Pt. No.
	Capacitors	
	Ceramic	
12pF	C181,184	
18pF	C116	
33pF	C140,141,164,165	
47pF	C175	
82pF	C174	
100pF	C142,173	
220pF	C177,183	
270pF	C193,194	
330pF	C182	
470pF	C128,172	
0.001µF	C145,147,169,185,188,190,203,205 206	
0.01µF	C160,166	
0.1µF	C103,123,124,132,133,135,137-139 148,163,171,189,195,201,210	
	Electrolytic	
0.47µF 50V	C143,152	
0.47µF 25V NP	C168	
1µF 50V	C105-107,155,	
10µF 16V	C157,176,197,198	
10µF 35V	C102,170	
22µF 16V	C111,113,115,117,120,121,122,129 144,146,167,202,204,207,A09,	
47µF 16V	C178,196,208	
47µF 25V	C101,104	
100µF 16V	C108,109,112,118,153,161,162	
220µF 16V	C119,130136,158	
470µF 16V	C131,134	
	Mylar	
0.001µF	C151	
0.0027µF	C114	
0.0033µF	C149,154	
0.0047µF	C187	
0.022µF	C199,200	
0.047µF	C156,186,191,192	
0.1µF	C125-127,150	

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Amstrad reserves the right to supply selective components .